



# RADIOWORLD

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## INSIDE

### NEW GEAR

• Nine new products for your radio station!



— Page 14

### GLOBAL RADIO

• Switzerland moves closer to its FM switch-off.



— Page 18

### DIGITAL

• Xperi highlights the ways digital radio has expanded community messaging during the pandemic.



— Page 30

## U.S. Radio Remains in Pandemic Mode

Work strategies still disrupted; more centralization is likely longer-term

BY RANDY J. STINE

Broadcasters in the United States are implementing COVID-19 safety protocols as they resume radio operations. But the process has been both tentative and uneven, given the dynamic national health and economic situation.

Leaders say safe return of employees is their priority as they evaluate when to reopen facilities and reimagine what workplaces will look. Many broadcasters closed facilities in March, and it's likely many employees will continue to work from home.

Return-to-work scenarios shared by several executives with Radio World are wide-ranging and include safety protocols like social distancing along with mitigation efforts to prevent further virus outbreaks.

One challenge facing broadcasters is the varying reopening requirements set by local jurisdictions. As of early July some parts of the country had reopened while other states were seeing spikes in the number of cases.



Getty Images/All Maglar

Many broadcasters are following the guidance of the Centers for Disease Control and Environmental Protection Agency for cleaning and disinfecting workplaces and other common areas. Station lobbies remain closed to the public in many cases.

Like a number of companies, Cox Media Group, which operates 54 stations in 10 markets, declined to discuss its re-entry approach for this story. However, a spokesperson said the company is moving ahead with caution. "We are doing everything we can to create a safe work environment and ensure our employees' well-being."

### PRACTICAL CONCERNS

The processes described by those who spoke with us include drastic measures like limiting free movement of

(continued on page 6)

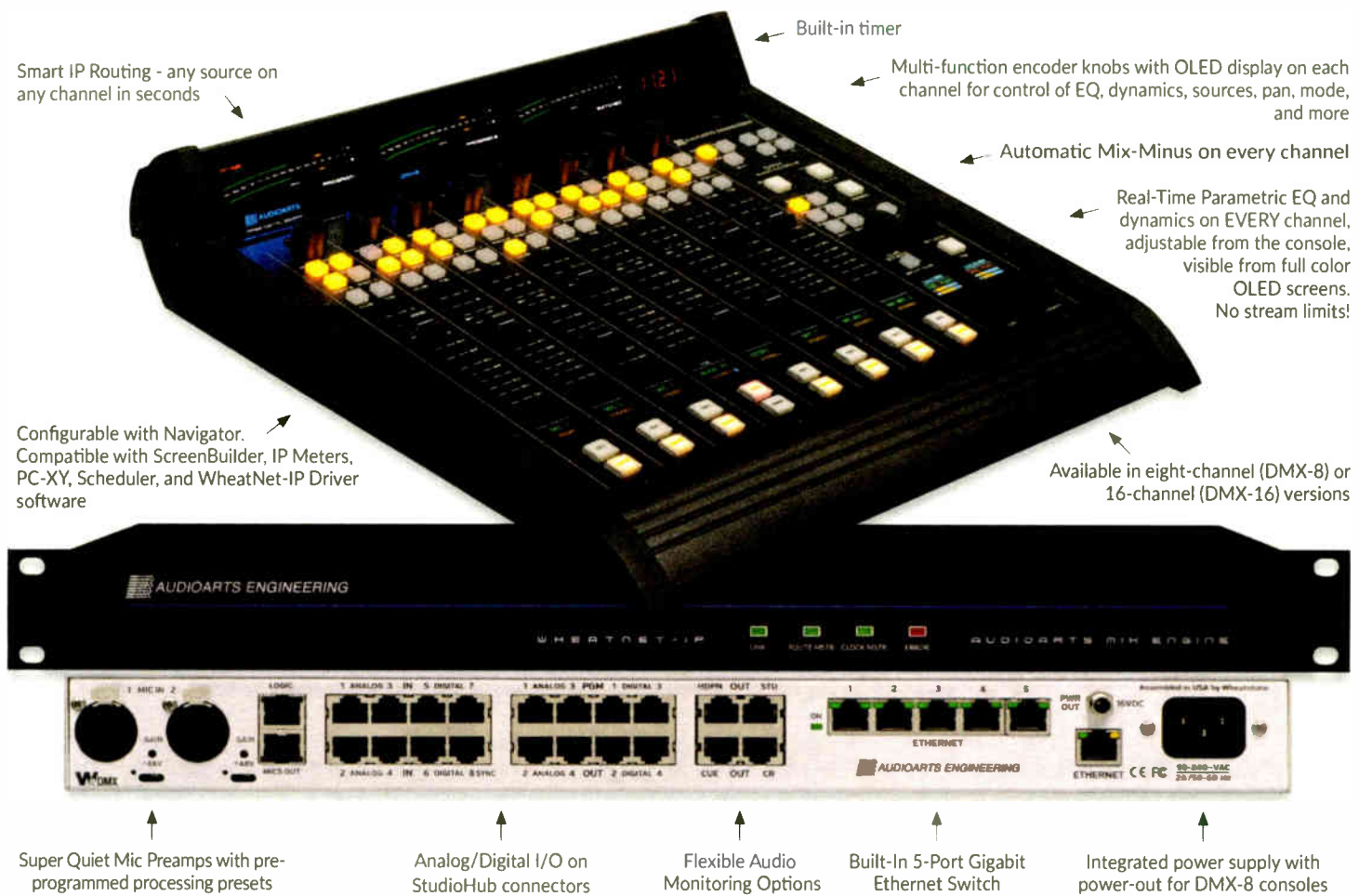


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PAGE 22**

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## They Overcame Radio's Earliest Glass Ceilings

Here are some of the women who excelled in the first half of the 20th century



BY JOHN SCHNEIDER

Before the dawn of broadcasting, women were frequently hired as wireless operators, and so it was not a surprise that women's voices were heard as announcers and program hosts in the early days of broadcast radio. Sybil Herrold was perhaps the world's first disc jockey: she played Victrola records on her husband Charles Herrold's experimental station, which broadcast in San Jose from 1912 to 1917.

In Boston, Eunice Randall's voice was heard on a variety of programs over AMRAD station 1XE (which became WGI in 1922). In New York City, WOR audiences regularly heard Jesse Koewing, who was identified on the air only as "J.E.K." while Betty Lutz was the popular "hostess" heard on WEAJ. At WAHG (now WCBS), 16-year-old Nancy Clancy was billed as the country's youngest announcer.

Additionally, women were frequently hired as "program managers," responsible for booking the live entertainment that filled their stations' airwaves, and they often came before the microphone to introduce the entertainers.

But, by the start of the network era in the mid-1920s, there came to be a prejudice against women's voices on the radio.

### "FLAT" OR "SHRILL"

Broadcasters complained that the tone quality of early receivers and speakers made women's higher-pitched voices sound shrill and dissonant; but this prejudice remained even as higher-fidelity receivers became available in the early 1930s. The conventional wisdom was that "audiences don't like or trust women as announcers" and "only male voices can speak with authority."

An audience survey conducted by WJZ in 1926, with 5,000 respondents, determined that listeners of both sexes preferred the male voice by a margin of 100 to 1. In 1934, an article in the Journal of Social Psychology concluded that "the male voice is more natural, more persuasive and more likely to arouse interest over the air than the feminine voice."

In 1935, Conril and Gordon Allport published "The Psychology of Radio," and determined that 95% preferred hearing male voices over the radio.

This prejudice against female announcers was expressed by station managers of the day. In a letter to the editor in Radio Broadcasting Magazine, a station director wrote that "for announcing, a well-modulated male voice is the most pleasing to listen to. I have nothing against a woman's announcing, but really do believe that unless a woman has the qualifications known as 'showman's instinct,' it really does become monotonous."

Another station executive from Pittsburgh wrote, "I would permit few women lecturers to appear [on the radio]. Their voices do not carry the appeal, and so whatever the effect desired, it is lost on the radio audience. Their voices are flat or they are shrill, and they are usually pitched far too high to be modulated



In 1922, Jesse Koewing was one of the first announcers at WOR in Newark (later New York City). She identified herself on the air with just her initials "J. E. K."



Sixteen-year-old Nancy Clancy was reportedly the youngest radio announcer in the country in 1924. Here she is shown in the studios of WAHG, the Alfred H. Grebe station in Richmond Hill, N.Y. WAHG grew to become today's WCBS in New York City.

correctly."

As a result, by 1930 women's voices had virtually disappeared from the airwaves, except for mid-afternoon programs aimed at the housewife and discussing such banal topics as cooking, fashion and beauty tips.

(continued on page 4)

## WOMEN

(continued from page 3)

This was especially true in network radio, with rare exceptions. In a notable experiment, NBC hired the vaudeville comedienne Elsie Janis in 1934 to be the network's first female announcer, joining a staff of 26 men. But when listeners complained that a woman's voice was inappropriate for serious announcing work, an NBC executive commented that they were "not quite sure what type of program her hoarse voice is best suited for, but it is certain she will read no more press news bulletins." Janis was relegated to announcing the weather and variety shows, and seems to have left NBC within a year.

Over at CBS, they paired radio actress Bernardine Flynn with Durward Kirby to host a daily newscast. But Kirby was assigned to read the "hard" news stories while Flynn reported only the "human interest" items.

Perhaps the only woman to break the taboo on women reporting serious news stories during the network era was Mary Margaret McBride. She began her radio career on WOR in New York in 1934, taking the air name Martha Deane and playing a grandmotherly-type woman



Elsie Janis, a well-known vaudeville comedienne, became NBC's first staff announcer in 1934. But listeners complained that her voice was not suited for "serious announcing" and she was relegated to announcing weather forecasts and variety shows. She left the network after only a short while in her position.

who dispensed philosophy and common sense. In 1937, she moved over to the CBS network under her own name, and became recognized for her interviewing capabilities. Her daily afternoon program included high-level politicians, generals and movie stars. She moved to NBC in 1941, where her daily audience numbered in the millions. She remained a regular feature on network

radio until 1960, and then continued in syndication.

### WAR YEARS

World War II temporarily opened employment opportunities for women in radio, as the male staffs of the networks and local stations were siphoned off by the armed services. Women assumed the roles of announcers and



Mary Margaret McBride broke the mold that kept women from serious announcing work on the radio networks. Her afternoon NBC interview program commanded an audience of millions, and she enjoyed a reported \$52,000 annual salary in 1941. Here she is seen interviewing General Omar N. Bradley on the first anniversary of D-Day.

newscasters, studio engineers and sound effects specialists. In 1943, NBC hired 10 young "pagettes" to supplement its depleted staff of Radio City pages. Around the country, women were also hired as advertising sales persons, program directors, traffic managers, continuity directors and even station managers. But sadly, just as occurred in manufacturing plants, when the men returned

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**THIS ISSUE**

JULY 22, 2020

**NEWS**

U.S. Radio Remains in  
Pandemic Mode . . . . . 1

They Overcame Radio's Earliest  
Glass Ceilings . . . . . 3

Radio Doing Good . . . . . 7



**FEATURES**

Audio Processing Before the Wars . . . . . 8

Workbench: Welcoming a New World  
of Readers . . . . . 12

Lessons Learned in Houston Radio . . . . . 20



**GLOBAL RADIO**

Switzerland Inches Closer to FM  
Switchoff . . . . . 18

**BUYER'S GUIDE**

New WheatNet-IP Studios Handle Recent  
Events . . . . . 22

WXPX Upgrades With Logitek Helix . . . . . 24

À Punt Radio Relies on AEQ . . . . . 26



**OPINION**

"COVID Virginia" Was a Volunteer  
Miracle . . . . . 29

Digital Radio Has Expanded Community  
Messaging . . . . . 30

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Photo: Author's collection

Radio actress Bernardine Flynn teamed up with announcer Durward Kirby for the program "Daytime Radio Newspaper" in 1943. The 15-minute CBS radio program had Kirby delivering straight news items while Flynn handled human-interest reports. Flynn was best known for playing the character Sade in the whimsical afternoon serial "Vic and Sade."

home after the war the jobs reverted to men who "had to support their families," and the women were told to go home and be happy homemakers.

In the 1950s, as the radio industry adapted to the new competition from television, many radio announcers turned into disc jockeys, but the prejudice against female voices on the radio continued. The big-name deejays at local stations around the country were all men. But there were a few exceptions. In 1955, Sam Phillips (of Sun Records fame) opened WHER in Memphis. Phillips enjoyed hearing women's voices on the air, and he hired an all-female staff to run the station. WHER operated from studios in a Holi-

day Inn motel, and this led to a spinoff program, sponsored by Holiday Inn. WHER personality Dottie Abbott, taking the air name Dolly Holiday, hosted an overnight program of easy listening music syndicated to stations around the country. Her soothing voice and soft music could be heard across the AM band after midnight almost anywhere in the country into the early '70s.

**CHANGING TIMES**

In the late 1960s, FM station WNEW in New York City experimented with an all-female format. Allison Steele won an audition against 800 other women and began working there as a disc jockey. She stayed on when the format

**RESOURCES & MORE READING:**

**Women and Radio: Airing Differences**, edited by Caroline Mitchell

**Fireside Politics: Radio and Political Culture in the United States, 1920-1940**, by Douglas B. Craig

"Remembering the Ladies—A Salute to the Women of Early Radio," by Donna L. Halper, "Popular Communications," January 1999

Broadcasting Magazine, July 1, 1934

"The Story of WHER, America's Pioneering, First All-Woman Radio Station (1955)," [www.openculture.com](http://www.openculture.com)

"Dolly Holiday — A Dreamy Soothing Voice in the Night," [www.rumormillnews](http://www.rumormillnews)

"Mary Margaret McBride, American Journalist and Broadcaster," by The Editors of Encyclopaedia Britannica

Wikipedia: "History of Radio Disc Jockeys"

was abandoned 18 months later, and gained popularity as "The Nightbird." Her overnight show drew an estimated audience of 78,000, and she was chosen by Billboard Magazine in 1976 as the "FM Personality of the Year."

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## WOMEN

(continued from page 5)

As the 1970s progressed, the barriers against hearing women on the air gradually faded away. CHIC in Toronto and KNIT in Abilene, Texas, both had all-girl deejay staffs, although the newscasts continued to be voiced by men. An all-woman format was tried at WSDM in Chicago, where Yvonne Daniels sharpened her chops before moving on to the AM powerhouse WLS in 1973. Also in Chicago, Connie Czernin debuted on WIND in 1974. Maxanne Sartori played progressive rock at KOL(FM) in Seattle before moving to Boston to take the afternoon slot at WBCN(FM). Donna Halper, whose written work has appeared in the pages of Radio World, played the hits at WMMS in Cleveland, where she was credited with discovering the rock band Rush in 1974. Liz Kiley started her career at WLAV in Grand Rapids in 1976, and within three years had moved up the ranks to WABC in New York.

The many who came after them benefited from the work of the women named above, and dozens of others, in challenging radio's glass ceilings.



Ruth Anderson at KFRC was San Francisco's only radio reporter, a choice role usually reserved for men. Previously limited to acting on soap operas, she was given the job of editing and reporting the news on a probationary basis in 1942 due to a shortage of male reporters during World War II. Her 15-minute program "Last Minute News" was heard six days a week, sponsored by a local department store.

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## PANDEMIC

(continued from page 1)

employees inside buildings, avoiding the use of large meeting spaces, and limiting the return of employees considered at high risk of contracting the virus. In many cases salespeople will continue working off-site.

New work routines are still being carved out, with guidelines being adopted as office spaces and studios are realigned. Work models are being fine-tuned by many large broadcast groups but work from home for some employees is expected to be extended.

A top-market public radio executive noted that companies not only must create their own rules but also abide by those of buildings where they lease

**It is pretty clear that corporate radio is trending to more centralized operations in general, similar to what iHeartMedia is doing.**

— *An industry executive*

space. This may raise additional issues involving maximum building occupancy, new "traffic patterns" such as one-way stairwells, and additional security card readers.

Also, if more air and IT staff are expected to work permanently from home, employers may need to provide those homes with uninterrupted power supplies for conditioning and backup power — and have plans in place for "passing the mic" to backup talent or support people if the home is hit by an extended power outage.

Longer-term, one high-ranking executive foresees a major shift to more centralized broadcast operations.

"It is pretty clear that corporate radio is trending to more centralized operations in general, similar to what iHeartMedia is doing. If anything, this pandemic proved remote operation could be achieved much more easily than first thought," he said. "I think we will generally see facilities with fewer people and more on-air content being generated centrally instead of locally."

iHeartMedia announced earlier this year plans to create AI-enabled Centers of Excellence in order to consolidate some operations at its radio stations, according to those familiar with the development.

### TOOLKIT

NAB Executive VP and Chief Technology Officer Sam Matheny said radio



broadcasters include barriers, modified work hours and alternating days in the office, Matheny said.

Cleaning crews will be necessary since wiping down all surfaces will be critical, he said. "And even staggered building entry times might be necessary since using elevators will be difficult while maintaining social distancing."

### LIMITED OCCUPANCY

One engineering executive at a major group said remote work at his company will continue for some time.

"Occupancy of air studios will be limited based on size," the person said. "All air staff who are in the building will be at least six feet apart with clear dividers installed where necessary."

Break rooms are likely to remain closed for some time, he said, and companies will emphasize regular cleaning and sanitizing of touch points.

Many broadcasters are operating with fewer employees after furloughs; the industry has also seen job cuts that predated or were not specifically tied to the health crisis. So one open question is how many such jobs might be recovered.

Smaller and medium-sized groups are affected as much as the biggest ones. Art Sutton, president/CEO of GA-Carolina Broadcasting, said his company furloughed nine employees and closed stations to the general public. "We won't consider bringing our employees back before July 31, when the federal government's \$600 weekly unemployment benefit expires," he said.

The broadcaster, which has 16 radio stations across five small and medium markets, saw major revenue declines the past several months.

"Since we are operating with fewer people, that helps to offset our revenue declines of 5% in March 2020 compared to March 2019," he said. Sutton reported a "brutal" 33% decline in April, 20% in May and a projected drop in June of 15-16%.

# Radio Doing Good

BY MARK LAPIDUS

*An occasional sampler of how U.S. radio stations are serving their communities.*

Good news is hard to come by these days, so it's with considerable joy that we bring you these stories highlighting a small sample of the great work radio has been dealing with the effects of COVID-19:

In Philadelphia, Beasley's WMMR(FM), WMGK(FM), WBEN(FM), WXTU(FM), and WPEN(FM) launched a line of "Philly Stands Together" merchandise to benefit the PHL COVID-19 Fund. The effort is part of Beasley's "Community of Caring" initiative. The wearables pay off twice: once when capturing the donation and again when people wear the campaign, which may generate even more funding.

Due to high unemployment, there has been an unprecedented need for food in the Tampa Bay community. WWRM (Magic 94-9), WPOI (Hot 101.5), WHPT (102.5 The Bone), WDUV (105.5 The Dove) and WXGL (107.3 The Eagle) partnered with Metropolitan Ministries to raise over \$260,000 during their "Feed It Forward: A Virtual Food Drive."

"Cox Media Group's leadership has sparked tremendous generosity," said President/CEO of Metropolitan Ministries Tim Marks in a press release.

In Charleston, S.C., the Lowcountry Food Bank has also been having issues keeping up with demand. iHeartMedia Charleston teamed with local prominent TV celebs to raise over \$280,000. This funding provided well over a million meals for those affected by COVID-19.

KDWB(FM) in Minneapolis ran a campaign to thank nurses fighting the coronavirus on National Nurses Day. Listeners were encouraged to

nominate local nurses for gifts and on-air recognition.

And iHeartMedia Boston's eight stations and cable provider RCN did something similar by joining forces to honor local heroes of the pandemic through an on-air award. The community was invited to nominate medical professionals, first responders, delivery drivers, cleaning crews, cooks, teachers, stock clerks and others. Ten heroes were featured on-air and received gift cards.



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# COMREX

# Audio Processing Before the Wars

Remembering the Gates Sta Level and SA-39B

## TECH MEMORY

BY TOM VERNON

The history of audio processors can be roughly divided into two chapters. The first, when these devices were a compliance tool for FCC regulations regarding transmitter modulation. Their job was to maintain average modulation levels between the required 85 and 100%, and ensure audio peaks never exceeded 100%. The second chapter, after the loudness wars began, when audio processors were used to create a signature sound for a station, and ensure modulation levels were kept as high as legally possible.

The Gates Sta Level AGC and SA-39B peak limiter belong to the earlier era. Both were introduced in the 1950s, and enjoyed long service lives. They were designed around conventional textbook circuits with no “black

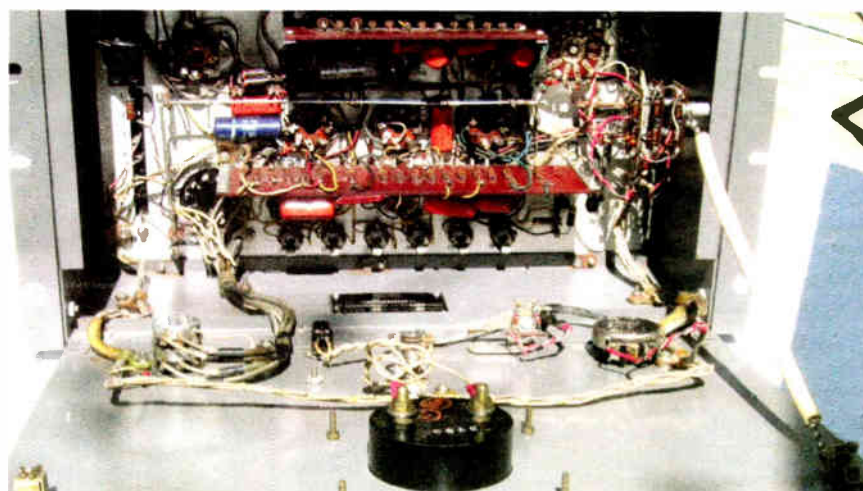
The audio output signal is sampled, rectified by the 6H6, and the resulting negative voltage connected to the second control grids of the 1612 input stage. As the output voltage increases, the grid becomes more negative, lowering the gain of the amplifier. Through compression levels up to 20 dB, distortion remained at a respectable .05% or less.

Compared to today’s audio processors, there were few adjustments and options to consider when setting up the SA-39B. Attack time was fixed at .001 seconds. Release time was adjustable via a six-position switch on the rear panel. Position 1 had a recovery time of .2 seconds, and each successive position added an additional .2 seconds. Position 3, with .6 seconds was the recommended starting point, and could be adjusted faster or slower to suit the format.

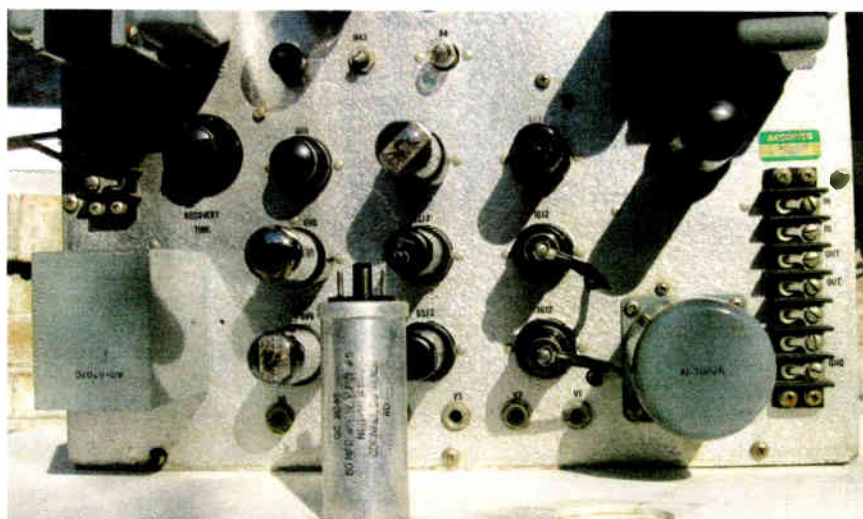
A tweak inside the limiter was used to set the front panel meter for 0 dB compression with no input. Then, it was simply a matter of increasing audio



Introduced in 1957, the SA-39B was marketed as a peak level solution for AM, FM and TV stations.



Most components of the SA-39B were mounted on two circuit boards. Earlier manuals included diagrams of the component values, designations and tube socket resistances.



Phone jacks made balancing the push-pull stages of the SA-39B easy. An octal-based electrolytic made replacement of the power supply capacitors a simple plug-and-play procedure.

## The Gates Sta Level AGC and SA-39B peak limiter were designed around conventional textbook circuits with no “black boxes” or deep secrets about how they operated.

boxes” or deep secrets about how they operated. Both were easy to set up and maintain. They were marketed by Gates throughout the 1960s and early '70s as the perfect pair for maximum modulation.

### SIMPLE SETUP

The SA-39B was introduced by Gates in 1957, and replaced the similar SA-38, which was designed in 1948. It was marketed as a solution for AM, FM and TV operations. The SA-39B’s audio circuit consisted of three push-pull stages: 1612, input; 6SJ7, intermediate; and 6V6, output. The regulated power supply had a 5V4 rectifier, and 6X5, 6SJ7 and 6L6 in the regulator circuit. A 6H6 functioned as the control rectifier. This regulated supply powered the first two audio stages. To ensure low noise, the filaments of the 1612s were run off a separate DC supply.

The theory of operation is simple.

input until normal programming showed about 5 dB of compression. This setting allowed sufficient headroom for the occasional intense peak energy.

Output levels could be adjusted to +20 dB. If that was too much, two fixed attenuator pads could easily be inserted into the circuit.

A nice feature of the SA-39B was the six 1/4” phone jacks on the bottom of the rear panel which were wired to measure cathode current of the audio stage tubes. With a 1/4” phone-to-banana plug patch cable, it was a simple matter to check these currents with a VTVM. Normal currents for each stage were indicated on the schematic.

There were two reasons for regular checks. Cathode current is a good indicator of tube life and when it begins to fall, the end is near. Second, push-pull circuits only work well when the tubes are balanced, and tubes don’t always age at the same rate. Imbalance can lead

to increased hum and distortion, and in the case of the 1612s, thumping during low frequency passages.

Maintenance was fairly simple, with the usual tube checks and logging socket voltages. Access via the

drop-down front panel gave access to most of the resistors and capacitors, neatly laid out on two circuit boards. Earlier tech manuals for the SA-39B documented component designations,

(continued on page 10)

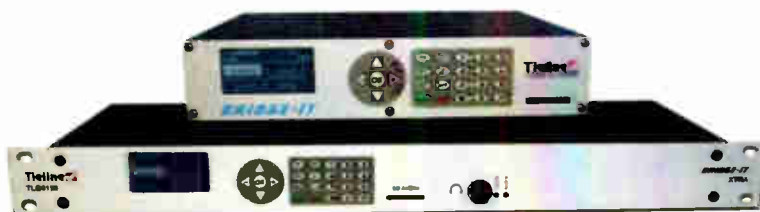


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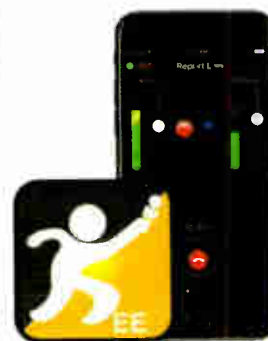
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# PROCESSING

(continued from page 8)

values and voltages, but that went away when the abbreviated four-page manual was released.

A nice feature of the SA-39B was the 20-20uF 450 volt power supply electrolytic, which was provided on an octal socket. These capacitors were more expensive than the conventional twist-lock style, but made replacement a plug-and-play procedure, rather than a tedious and time-consuming chore.

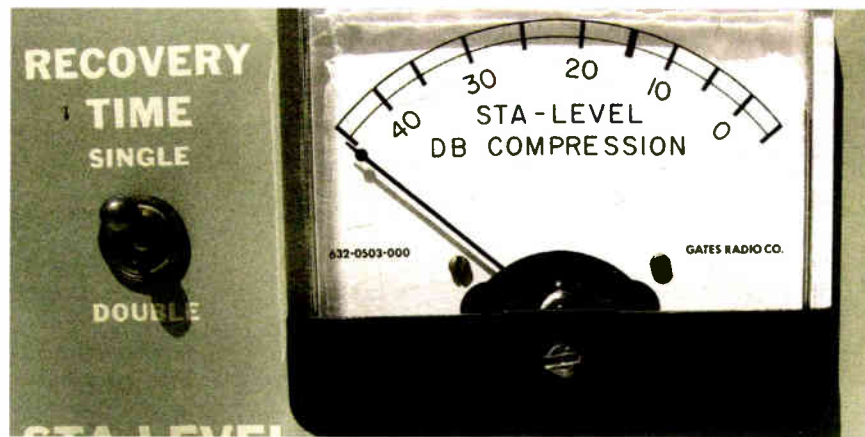
The Gates SA-39B and comparable peak limiters such as the RCA BA-6C and Collins 26U-1 were among the first casualties of the loudness wars. When the FCC passed regulations allowing AM stations to increase their positive peak modulation from 100 to 125%, their days were numbered. Asymmetrical modulation called for entirely different circuits for peak limiting. By the mid 1970s, the loudness wars had spread to the FM front. When the Orban Optimod 8000 was introduced around 1976, it revolutionized FM audio processing, and conventional peak limiters began to disappear there as well.

## CULT STATUS

While the SA-39B has largely faded from memory, the Gates Sta Level has been elevated to cult status as the decades have passed. In fact, software-based audio processors often have a "Sta Level" setting to emulate its unique sound.

Introduced in 1956, the Sta Level was in the Gates product line for the next two decades. It had a well-deserved reputation for its unobtrusive control of audio levels. The secret was the GE 6386, a remote-cutoff twin triode. It had a long life, and never seemed to lose its wonderful linearity. A little-known fact is that the Sta Level was not the first audio processor to use the 6386.

Shortly after General Electric introduced the 6386 tube, its broadcast products division introduced the 4BA9B1 Uni-Level to take advantage of it. The Uni-Level was a stripped-down AGC amp built for a low price-point. Input and output levels were controlled by fixed resistive pads, there was no compression level meter, and minimum parts count. The tube lineup was a 5Y3



The Gates Sta Level was the last AGC amplifier that the company manufactured utilizing vacuum tubes.



By changing the values of two resistors, the recovery time of the Sta Level could be increased or decreased.



A control to adjust cathode voltage of the 6V6 output stage was the only tweak to tune up the Sta Level.

rectifier, 6386 push-pull input/control, 6AL5 control rectifier, and (2) 6V6 push-pull output. They started selling like hot cakes.

Gates wanted a piece of the action, but they didn't want to run afoul of GE's application patent on the Uni-Level circuit. The challenge for Gates engineers was to design a device that utilized the 6386, but was sufficiently different to dodge a patent infringement. They did this by putting an OB2 regulator for the 6386 plate supply as well as adding a 12AT7 between the 6386 variable-mu stage and the 6V6 output stage. It was totally superfluous, and all the extra gain was swamped out by negative feedback. But it did keep the lawyers happy.

One of the underground mods for the Sta level was to remove that 12AT7 and couple the plates directly to the 6V6 grids with .5 uF mylar capacitors. The result, less noise distortion and heat, better sound. But many engineers didn't stop there.

Back when stations used to build their own equipment, the Sta Level's schematic was the jumping off point for

far more elaborate devices. Precision resistors, high-quality audio transformers, audio attenuators and other high-end components were often used.

While the Sta Level used an OB2 to regulate power to the 6386, many homebrew designs regulated everything, often using a 6AS7 with a 6SJ7 DC amplifier and OB2 VR tube as a reference.

Some stations went all out with the metering circuit, adding a rotary or pushbutton switch to select dB compression, audio output VU, cathode current of the audio stages, DC filament voltage for the 6386 and balance of the two push-pull stages. A few circuits also included indicator bulbs for expansion, compression and when the gain was frozen. They were not terribly useful, but fun to watch.

TV stations often had problems with the quiet passages in films, when the AGC would suck up all the background noise up to program level. The solution was to modify the Sta Level circuit with a pot to control the DC bias on the cathode of the 6386. That would establish a platform which would limit the range

overs which expansion would occur.

Setup and maintenance of the Sta Level was straightforward. Once it was connected to the console output and being fed normal program level, adjust the input level control till the meter indicates around 15 dB of compression. Adjust the output control to properly feed the following device. At many stations, this was the phone line connecting the studio to transmitter, where the peak limiter was presumably located. Finally, set the recovery time for single or double.

As shipped, the Sta Level's recovery time for 2/3 level was 7 seconds, and 90% level in about 28 seconds. By changing the values of R36 and 37, that could be increased to as fast as 2 1/4 seconds for 2/3 level and 10 seconds for 90% level. This was a common mod for Top 40 stations. Want to slow it down instead? Then 11-1/4 seconds for 2/3 level and 45 seconds for 90% might be more to your liking if you had an easy listening format.

Sta Level had a tweak for balancing the cathodes of the 6V6 output stage. The manual called for matching the voltages, but a more precise method was to adjust for minimum distortion at 1 kHz. That was about it for adjustments.

Due to its simple design, reliability and great sound, the Sta Level was used lots of places besides the air chain. If you purchased a Gates automation system in the 1960s or '70s, it often had a pair of Sta Levels on the audio output to even out the levels between different sources. Stations used them in production room for the same reason. Some were wired into a patch panel so they could be deployed for sports remotes, which had notoriously erratic levels. Talk stations were known to use them on phone lines.

While both units enjoyed a long service life, advancing technology eventually caught up with them. In 1975, Gates/Harris introduced the Solid Statesman line of audio processors. This included the M-6543 AM limiting amplifier, M-6631 FM limiting amplifier and M-6629 automatic gain control amplifier.

The Sta Level and SA-39 pictured with this article were found while cleaning out transmitter buildings during the contract engineering days of the 1980s. The SA-39 dates from the late 1950s, while the Sta Level was manufactured in 1967. They were cleaned up and returned to good operating condition. Both are now enjoying their retirement as display objects in the museum.

Tom Vernon wrote earlier this year in *Radio World* about broadcast test and measurement gear in use in the 1970s. Read it at [radioworld.com](#) with "proof of performance" in the search field.



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# Welcoming a World of New Readers

Like all of our content, Workbench tips are intended for folks the world over

## WORKBENCH

by John Bisset

Email Workbench tips to [johnpbisset@gmail.com](mailto:johnpbisset@gmail.com)

With this issue, Radio World expands its readership to the international broadcast engineering community. We welcome the new readers to Radio World's longest-running feature Workbench, and look forward to interacting with you, sharing tips and suggestions that make your job easier and more efficient.

Longtime Workbench contributor and Malaysia resident Paul Sagi has been editing local science textbooks and scientific research papers in a variety of fields since retiring from broadcast and computer work.

Paul writes that much in life depends on timing. Since electric surges travel at a finite speed, the speed of current through the conductor, which is estimated at 98% of the speed of light, MOVs (Metal Oxide Varistors) must switch on fast — in nanoseconds.

Surge suppression is a race between the surge current impulse and the MOV. Placement of the MOV has to be between the power (or data) input and the protected components. It must be close enough to the power (or data) input, and far enough from the protected electronic components, that the MOV can be turned on (or at least turning on) before the surge reaches the components.

In Paul's case, he placed the MOV right next to the phone line input of a DSL splitter, not 3/4 of an inch away. He drilled holes through the printed circuit board (PCB) of his DSL splitter to add an MOV right next to the phone line jack. While inside, he replaced the

original GDTSS (gas discharge tube surge suppressor) with a MOV because the MOV has a much quicker response time.

On the way to the DSL splitter, the phone line (Cat-5e Ethernet cable, green/white pair) passed through a surge suppressor he made with a 130V MOV. Between the DSL splitter and the modem was (you guessed it) another MOV surge protector and more Cat-5e Ethernet cable, green/white pair.

This brings to four the number of MOVs that Paul installed to take the punches from the lightning. Paul reports that over the years, he's lost an MOV



Fig. 1: Keep cables in place, without the sticky residue. Use TunnelTape.

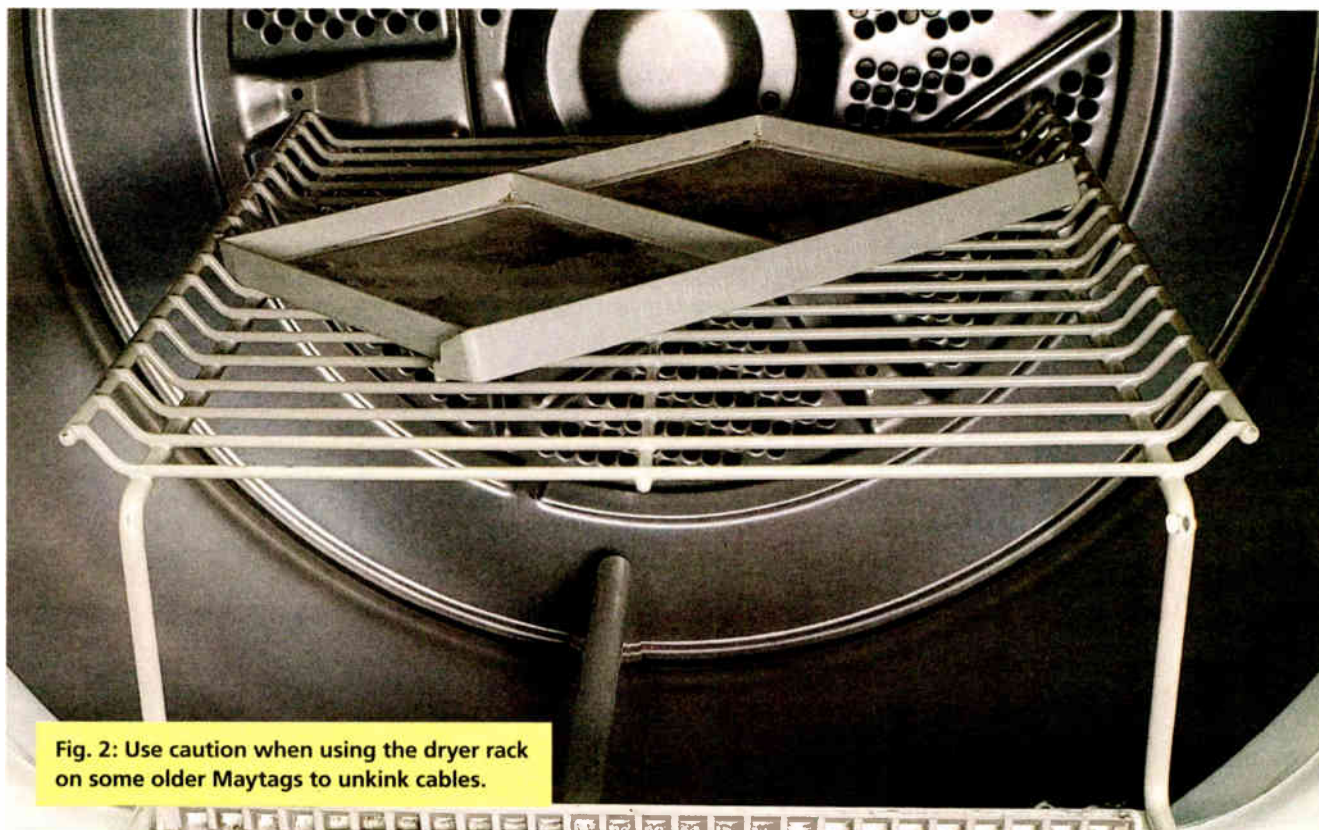


Fig. 2: Use caution when using the dryer rack on some older Maytags to unkink cables.

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or two but never a modem. Timing is everything.

Paul also has an APC by Schneider Electric. The model is EasyUPS BV650I-MS UPS/AVR combo, and it works well. But even though Paul bought it from a Malaysian chain of computer stores, it was supplied with USA power outlets. The electrical outlets in Malaysia are the British type. The tip here is to have a good adapter for your AC cables.

Fighting the gummy residue after duct taping remote broadcast cabling on the floor or pavement is the bane of most remote engineers. The problem easily disappears with Tunnel Tape.

This patented, 3-inch-wide tape has

adhesive only on its edges. This creates a stick-free "tunnel" in the center of the tape, where wires and cables can pass and not be affected by the adhesive on the edges.

The tape has some other benefits as well: You can easily tear the tape by hand, it is puncture-resistant, and it can be lifted and repositioned several times without losing adhesion.

A 3-inch by 40-foot roll runs just under \$25. For larger cable bundles, the tape is available in 4-inch widths, at a slight increase in price.

Specifications and ordering information can be obtained at [www.cableorganizer.com/tunnel-tape](http://www.cableorganizer.com/tunnel-tape).

Florida projects engineer Dan Slentz alerts readers to more free and low-cost metering software! This time it's from UK-based Darkwood Designs ([www.darkwooddesigns.co.uk](http://www.darkwooddesigns.co.uk)), which offers a variety of software meters including VU, PPM, multi-channel level meters, all supported by Windows XP / Vista / 7 / 8 / 10 only.

From the home page, click on "More PC Software" to download a slick Audio Test Generator. This level meter includes a digital readout and is combined with a Sine Wave Test Generator. Ideal software for your shop, workbench or laptop for field applications.

Dan also came across a new and useful YouTube video for owners of Moseley 6000 series studio/transmitter links. It describes the process to change operating frequencies on this equipment, but it also includes useful servicing tips. To find the video, enter "Moseley 6000 Series STL Pair Frequency Change" in the YouTube search block.

Readers may remember Dan's earlier submission of free drawing software, similar to Visio, called Draw IO. The company has released another free software version called Flowchart Maker & Online Diagram Software. It's ideal for developing flowcharts and other engineering diagrams.

Here's the link: <https://app.diagrams.net/>.

San Diego's Marc Mann found Bill Fike's suggestion of using a clothes dryer to persuade AC cord sets to relax (RW May 12, 2020) a great idea.

However, Marc urges caution. Bill's model Maytag is similar to Marc's 16-year-old Maytag. The drying rack in that model and other early models were the subject of factory recalls, because when mounted, they allow lint to bypass the filter and accumulate in various areas of the heating and vent train, possibly causing a fire during normal use.

Marc's model (Fig. 2) requires the user to remove the filter to mount and

**Workbench** is the place where you and fellow readers share great tips to help one another in our jobs and careers. Email me your ideas; I'm at [johnpbisset@gmail.com](mailto:johnpbisset@gmail.com).

utilize the rack. The issue is that anything that would come loose while drying would pass directly through and likely get lodged in the squirrel cage

fan. Bill's model evidently uses a different rack mounting method.

Anyone who has the older style of dryer, which requires removal of the lint

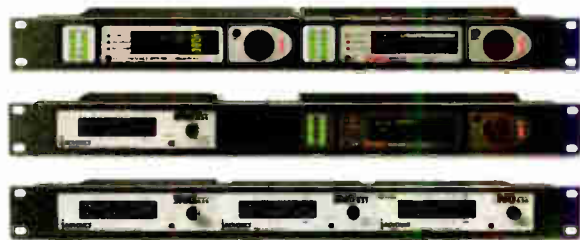
filter for rack use, should ensure they first remove any adhesive labels on the cords, which once heated could come loose and cause issues as they float around inside the dryer.

John Bisset has spent over 50 years in the broadcasting industry and is still learning. He handles western U.S. radio sales for the Telos Alliance. He holds CPBE certification with the Society of Broadcast Engineers and is a past recipient of the SBE's Educator of the Year Award. *Workbench* submissions are encouraged and can be emailed to: [johnpbisset@gmail.com](mailto:johnpbisset@gmail.com).

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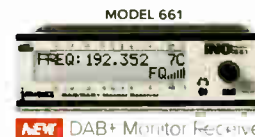
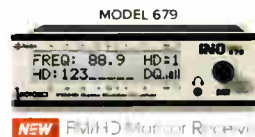
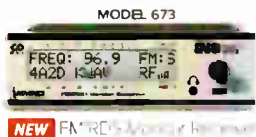
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# Summer of Products

A sampler of new and recent offerings in this "year like no other." We'll have more next issue. Got a new product announcement? Send it to us at [radioworld@futurenet.com](mailto:radioworld@futurenet.com).




## TIELINE ADDS GATEWAY TO THE LINEUP

Multichannel IP codec in a 1 RU package

Codec manufacturer Tieline has added a new codec to its product lineup.

The Gateway IP audio codec is a 1RU multichannel IP audio transport solution for radio broadcasters. It can stream up to 16 IP audio channels with support for AES67, AES3 and analog I/O as standard.

The Gateway's applications include STL, studio-to-studio and audio distribution missions, as well as managing multiple incoming remotes at the studio. It is interoperable with all Tieline IP codecs and compatible over SIP with all EBU N/ACIP Tech 3326- and 3368-compliant codecs and devices.

Tieline VP Sales, APAC/EMEA, Charlie Gawley said, "The new Gateway codec increases channel density with 16 bidirectional mono or eight bidirectional stereo streams of IP audio in 1RU to reduce rack space requirements."

The Gateway also has Tieline Smart-Stream PLUS redundant streaming and Fuse-IP data aggregation technologies.

It is configurable through an embedded HTML5 Toolbox Web-GUI interface; the Gateway can also interface with the Tielink Traversal Server for simpler connections and is controllable using Tieline's Cloud Codec Controller.

An optional WheatNet-IP card is also available.

Info: [www.tieline.com](http://www.tieline.com)



## HENRY ENGINEERING SECURES POWER

Failsafe UPS power switcher available

Henry Engineering's BackUPS is a power controller for ensuring AC power to critical equipment that is powered with an uninterruptible power supply. BackUPS constantly monitors the output of the UPS, and automatically bypasses the UPS if its output fails or becomes unstable. This keeps the load powered up, and allows the UPS to be disconnected for battery replacement or other maintenance.

BackUPS includes a delay timer that ensures the UPS output is stable before the UPS is switched online. Whenever the UPS output comes on, the system monitors its output for a preset time period. The UPS will be switched online only if the UPS output is stable during this delay interval. The unit can detect UPS power interruptions as short as 10mS. The delay time can be set from 10 seconds to 16 minutes, and can be defeated if it is not needed.

BackUPS is fully automatic once installed. The mode switch can select manual UPS bypass mode, or automatic operation with or without the delay feature. BackUPS can also be remotely monitored and controlled. The remote bypass input allows the unit to "force bypass" the UPS via a GPI control input.

BackUPS can also be used as a "remote reboot" device, to reset and reboot equipment via off/on power cycling. It can supply up to 15 amps of AC current to the load.

Info: <https://henryeng.com/>



## MARKETRON NXT AIMS AT REVENUE

Integrates air and digital campaigns into a single platform

Broadcast business software developer Marketron has released NXT, a digital advertising management platform.

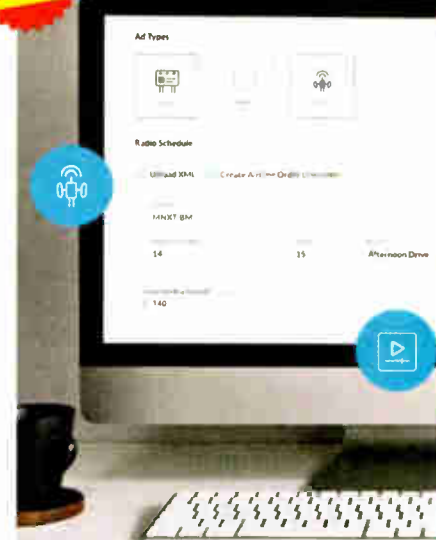
The company says that NXT was built specifically for radio business usage. It can manage radio station broadcast and digital campaigns.

Marketron CEO Jim Howard said, "The radio industry is in a period of rapid transition, and we are here to enable our industry to successfully bridge to the new future."

Marketron says that NXT consolidates all major digital categories into a single system that includes capabilities for proposal creation, order entry, execution of radio and digital, campaign reports and invoicing. In addition it offers a proposal creation tool that gives broadcast sales representatives access to premium, third-party digital inventory. Within one platform, sales teams are able to package all products and multiple tactics — air time, third-party digital display ads, non-spot revenue, O&O digital, sponsorships and more — into a proposal with consolidated order entry, full invoicing and reporting.

Senior Vice President of Product Jimshade Chaudhari said the platform provides the ability to create professional proposals in minutes and show digital campaign ROI through detailed reporting. He said automatic creation of insertion orders reduces time and the potential for error, and Marketron NXT's workflow makes it easy for business offices to track invoices, payments and margins.

Info: [www.marketron.com](http://www.marketron.com)

## STREAMGUYS POLISHES OFFERINGS

SGreecast and AudioLogger get improvements

StreamGuys has added new capabilities in its flagship SGreecast live stream repurposing and podcast management platform that help broadcasters expand their revenues by automatically converting live streams into podcasts without needing to manually tag midroll ad breaks in the results.

StreamGuys says that its AudioLogger already offers flexible methods for transforming live streams into podcasts including both schedule-based automation and manual control enhancements in the SaaS

solution's recording feature. Now it offers a fully automated, metadata-driven podcast publishing workflow.

Previously requiring producers to manually place inline ad markers into its 24/7 live recordings before publishing the resulting podcast, the upgraded AudioLogger gives users the option to preserve midroll ad break metadata from the live stream — thus enabling subsequent dynamic ad insertion in the published podcast without manual effort. The enhanced AudioLogger also supports metadata-trig-



gered recording, giving users more flexibility than prescheduled recordings.

Info: [www.streamguys.com](http://www.streamguys.com)



## PUTTING THE BLADE TO THE STREAM

Wheatstone offers StreamBlade 32-output streaming WheatNet device

Wheatstone is expanding its blade offerings with the StreamBlade, a WheatNet-IP appliance that accepts up to eight input streams of native WheatNet-IP audio directly from a sound card or AoIP driver as well as RTP sources and can output each in four streams; providing up to 32 total streams per device.

Output choices include Opus, AAC and MP3 encoders. The company says it is cloud-ready and compatible with standard CDN and streaming platforms, including Icecast, Wowza and RTP.

The StreamBlade has onboard processing with a six-band parametric EQ, a five-band AGC, a two-band final limiter and a stereo width control.

Wheatstone says that the AGC is designed for streaming. Jeff Keith, senior product development engineer for Wheatstone's audio processing line explains, "Fast time constants (compression) can add intermod sidebands around a sustained note or bass note, which the codec has to spend bits on instead of the signals that are actually part of the program. That can be bad for any stream, but it's especially bad for low-bitrate streams that don't have a lot of data bits to begin with."

StreamBlade can be configured and managed from a laptop and web browser using WheatNet-IP Navigator software. The box has two Ethernet ports, one for direct connectivity into the WheatNet-IP audio network on one end and another for connectivity into a WAN for streaming to a CDN or other service provider.

Info: [www.wheatstone.com](http://www.wheatstone.com)

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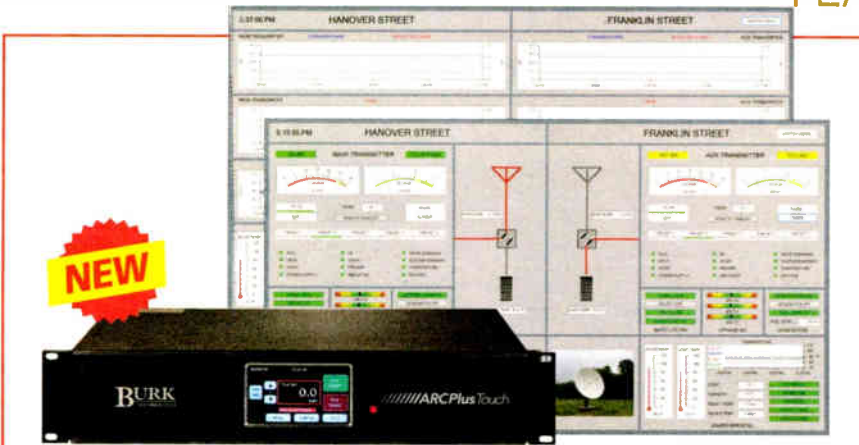
For the cost of most support contracts you can have a complete APEX Radio automation system. For the one low monthly price you get 'APEX' on air software (Live, hard disk automation, satellite automation, Ball games and more), 'Tools' software (Library management, Production, Scheduling, Voice tracking from anywhere, Reporting, and more), and 'Bridge' hardware (sound cards, sat switcher, sat logic), plus customer support, and all software updates and upgrades. Just add a Windows 10 PC and you are on air. Need another 'Tools' studio just add software for \$250 and another Windows 10 PC. No contract to buy, APEX is month to month. Like it then keep it. Join the thousands who have chosen Arrakis automation since 1991.



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## BURK OFFERS ARC PRECONFIGURED SYSTEMS

Customized turnkey systems now available

Burk Technology is now offering preconfiguration of its ARC Plus and ARC Solo remote control systems. This new service includes configuration of monitoring and control points, automatic functions using Jet Active Flowcharts, alarm notification setup, periodic log capture and distribution, and AutoPilot custom views.

Burk's product experts will tailor a system to meet a station's unique requirements, giving clients the visibility and control needed to manage an entire broadcast environment. Jet Active Flowcharts make the decisions and take the actions a client specifies, using an easy-to-read graphical format that is intuitive and natural. AutoPilot custom views highlight the information most important to managers and engineering staff providing at-a-glance status of the broadcast facility.

Preconfigured systems provide a reliable, effective facilities control including important features that are sometimes overlooked. Email or text alerts provide instant notification of equipment failures or off-air events. Up-to-the-second status lets users decide whether to drop everything and head to the site in the middle of the night or let it wait for the next scheduled service visit. Automated logging and reporting of critical parameters for the transmitter and tower lights demonstrate FCC and FAA compliance. Long-term variations in logged data help to define the scheduled maintenance plan. Early warning thresholds on key parameters identify equipment degradations before failures occur.

Info: [www.burk.com](http://www.burk.com)

## TELOS ALLIANCE UPDATES OMNIA VOLT

Audio processor gets new presets and more

Now available for the Omnia Volt audio processor is Version 2.0 of its software. The company says the V 2.0 includes improvements suggested by users.

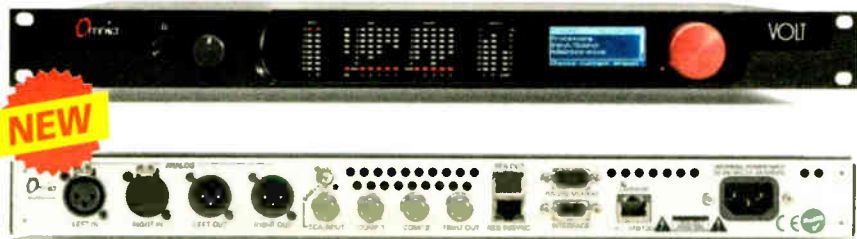
The new version has a "revamped" preset collection. "Telos Alliance has combined constructive feedback, custom preset development for key customers, and creative input from worldwide power users in this latest version." the company says. In addition eight wholly new presets have been created.

Also new is a port forwarding feature for local networks with multiple Volts engaged.

And for the international market, improved ITU-R BS.412 power limiting. According to the announcement, there are nine new or revised presets which "make the most of the allotted deviation without the audible artifacts sometimes heard with BS.412 limiters."

SNMP is also now available for all versions of Volt.

Info: [www.telosalliance.com](http://www.telosalliance.com)



## DIGITAL ALERT SYSTEMS RELEASES V4.2 OF EAS SOFTWARE

Supports DASDEC-II or One-Net SE EAS devices

Digital Alert Systems has made available the latest software version, V4.2, of its Emergency Alert System software for its DASDEC-II and One-Net SE EAS devices.

The new version of the software offers features and improvements that are designed to expand the security measures already built into the software. This includes additional communications protocols for EAS-Net, the DAS communications protocol software that enables EAS data and audio transmissions over a TCP/IP network for up to eight EAS-Net compatible platforms.

Another new feature is the software Secure Socket Layer HTTPS certificate management functions, which allow users to perform things like selecting the web server certificate, adding new cert and key certificates, selecting different certificates and deleting a certificate. Users can also load and/or delete their own key/cert pairs.

There are also separate control toggles as part of V4.2 that enable users to control digital signatures selectively from various Common Alerting Protocol servers, with improved logging between servers for more information about CAP files. In addition, communication improvements for users of DAS' Homogenous Alert Overseer are also available.

Any DASDEC-II or One-Net SE customer running V4.0 or V4.1 can download V4.2 for free. For customers not yet upgraded to V4, DAS has a price relief program that offers a discount on the normal upgrade fee, ranging from 20% to 60% through Sept. 7.

Info: [www.digitalalertsystems.com](http://www.digitalalertsystems.com)



## LAWO ADDS REMOTE CONSOLE OPERATION

Mix Kitchen makes remote console control possible

Console maker Lawo has released the Mix Kitchen, a console remote control system.

The Mix Kitchen uses the Mackie HUI control surface protocol to provide the ability to remotely control Lawo mc2 console systems via any Mackie HUI-compatible control surface. Besides physical fader control, Mix Kitchen provides access to other things such as processing, bus control, presets, etc. It is both Windows- and Mac-compatible.

Lawo Senior Product Manager Audio Production Christian Struck said the setup works without additional Lawo hardware, retrofits or upgrades. "Audio engineers can work with an inexpensive fader panel that supports Mackie HUI, e.g. Icon Platform X, Behringer X-Touch, their laptop, a mouse and a tablet."

Info: [www.lawo.com](http://www.lawo.com)



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# Switzerland Inches Closer to FM Switch-Off

Refines strategy and addresses remaining challenges as it prepares for total digital switchover in 2024

BY MARGUERITE CLARK

**GENEVA** — Switzerland is embarking on the next phase of its digital radio switchover strategy. In May, René Wehrlin, media specialist at Switzerland's Federal Office of Communications (Ofcom), announced the country's next steps toward the country's total transition to DAB+.

Ofcom officially confirmed in 2019 that the nation would say "adios" to all FM radio programs by then end of 2024 at the latest (see <https://tinyurl.com/rw-switz>). At the time, the "Digital Migration" (DigiMig) working group, set up by the Swiss private and public radio sectors and Ofcom in 2013, stated that 68% of radio listening was digital, 37% of which was via DAB+ and 15% exclusively via FM.

## THE RIGHT MOMENT

According to Wehrlin, with 10 regional/language-based multiplexes and 15 local multiplexes, a total of 124 stations are now broadcasting via DAB+ in the country. This includes public broadcaster SRG SSR, private broadcasters as well as local and regional broadcasters.

This means DAB+ is now the most used radio reception platform in Switzerland, and Wehrlin says the Swiss radio industry is "convinced it's the right time to prepare for the switch off of FM services."

Wehrlin points to cohesion of the nation's public and private broadcasters as a major factor in allowing Switzerland to keep pace with its digital switchover plans.

"They are collaborating on the switchover and costs, while competing on content," he said. "Private radios, public broadcasters and Ofcom have come together in the digital migration through DigiMig to secure a healthy and strong future for the digital future of radio in Switzerland."

What's more, Switzerland is diving head-first into the digital radio pool.



Switzerland now counts 124 stations that broadcast via DAB+.

**Cohesion of the nation's public and private broadcasters has accelerated Switzerland's digital switchover plans.**

Unlike Norway, which finalized its digital switchover in 2017 but allowed some local stations to remain on FM for five years longer, Switzerland aims to have all stations transitioned to digital by the end of 2024, when FM radio licenses expire.

"It's possible to switch off FM earlier, but either way we are sure that from 2025 onward — and the radio industry is in absolute agreement on this — there will in all probability no longer be any FM radio in Switzerland," he said.

## PARTICULAR LANDSCAPE

While Switzerland followed the Norway transition closely, each country in Europe has its own radio landscape and must adjust their individual approach.

"In contrast to Norway, we have four language groups in three parts of the country that must be served equally," he said. "And we don't have many large private radio groups. Most private radio stations are not national, but at most have a regional focus."

That said, he admits the experience of his distant Nordic neighbor provided Switzerland with important insights ahead of its digital switchover.

"For example, we learned that migration would only be successful if all

actors — private and public — work toward a common goal," he said. "This includes all stations switching off their FM services." He adds that it was also important to learn that DAB+ coverage must be at least equivalent to FM. "For us this also means perfect coverage in highway tunnels. We've invested a lot of money in tunnel equipment."

But of course transitions never come without a few challenges. One area to which Ofcom is paying particular attention remains DAB+ in the car. He says the regulator continues to work closely with the automotive industry to advise existing drivers to install DAB+ in their cars.

## CHALLENGES

Today some 96% of new cars sold in Switzerland come equipped with DAB+, but there are still more than 3 million cars on the roads that are not yet compatible with DAB+. This, emphasizes Wehrlin, is why it's important to raise awareness on DAB+ with current drivers.

"With the vast majority of new cars sold in Switzerland now being factory-fitted with DAB+, we have now shifted our attention to the aftermarket sector. Educating the automotive industry and existing drivers on the importance of DAB+ for aftermarket cars is crucial," he said.

"With this in mind, public broadcaster SRG and our advertising agency have been organizing and running number of automotive workshops, to inform the automotive industry on the opportunities related to DAB+ in aftermarket cars, and offer retail training."

The campaign, which sports the



"Dabsy" is the official mascot for Ofcom's digital radiocampaign.



René Wehrlin is a media specialist at Switzerland's Federal Office of Communications.

slogan "More Programs, More Sound, More Radio," is divided into two phases. The first phase is based on raising awareness and highlighting the benefits of DAB+, as well as preparing the public for the digital switchover. The second phase of the campaign will communicate the official date for the switch-off of FM services, and serve as a call to action for the business-to-business sector.

Wehrlin explains that "Dabsy," the campaign's official mascot, will be the mouthpiece for both stages of the campaign. He adds that marketing efforts based on the digital switchover will also begin one year prior to the switchover.

He stresses that Switzerland's digital switchover is the result of an industry decision, not of the authorities. "We have only established the legal basis and assured financial support if the industry wants to take the step." Also, he says, in order to strengthen media diversity and motivate new players, in recent years Ofcom has subsidized up to 80% of DAB+ transmission costs. "I think this measure has contributed significantly to the success of DAB+ here."

While the ultimate FM shutoff date is slated for the end of 2024, Wehrlin says there are ongoing industry discussions about an even earlier switch off date.

"But this decision has not yet been taken," he specifies. "Private radio stations will carefully weigh up this decision. They worry they would lose listeners and thus advertising revenue if there isn't enough DAB+ equipment in circulation at the time of the switch off. And we all need to take this seriously."

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## OPXONE

# Lessons Learned in Houston Radio

Talking resiliency and best practices with Entercom's Robbie Green

Lightning and hurricanes are familiar threats in Houston, which, with nearby Galveston, constitutes radio market No. 6 for Nielsen Audio. There are nearly 6 million people age 12+ in the metro.

Robbie Green is director of technical operations for Entercom in that market.

**Radio World:** Describe the RF infrastructure that supports most of the FM stations in your market, and how redundancy plays out there.

**Robbie Green:** Virtually all of the non-rimshot commercial FMs here in Houston have a backup transmitter available at a site separate from their main site. Nine of the biggest stations in the market share the Senior Road Tower, and all of them have a backup site near Senior Road that allows operation that comes close to duplicating their primary coverage.

For example, all of my stations operate with near-maximum full C facilities from Senior Road. The backup for two of them is 76 kW at 1,750 feet, and the others are 70 kW at 1,500 feet. At all four of mine, when we switch to the aux site, the listeners would be hard pressed to tell, as we maintain HD Radio operation and even the exact same processing as at the main site.

All nine of the Senior Road stations maintain an antenna of last resort at the 1,000-foot level on the main tower. Each one is a single-bay ERI, which can deliver about 9 kW out with normal, licensed TPO going in. It actually looks like a nine-bay Roto-Tiller when you look up at it, but in reality, it's nine one-bay antennas.



Getty Images/DESKCUBE



Robbie Green

**RW:** Hurricanes and lightning present annual threats, and particularly in that part of the country; how do you manage your facilities to protect against those?

**Learn More**  
This story is excerpted from the Radio World eBook "Plan B: Ensuring RF Readiness." Read it at [www.radioworld.com/ebooks](http://www.radioworld.com/ebooks).

**Green:** With regard to lightning, in my experience anyway, well-grounded towers rarely experience equipment damage due to lightning.

One memorable exception to that rule was when lightning blew a hole into the top of a radome at a station in my hometown many years ago, but even then, it was the water inside the radome bending the top antenna bay downward that caused the issue, not a surge.

By far, most of the equipment damage I've seen has come from surges that came in on power lines. We employ high-quality MOV surge suppressors to help deal with those, but they do have to be checked regularly. MOV devices lose a bit of their effectiveness with each surge they send away from the equipment to ground, so they have to be maintained like any other piece of equipment.

Hurricanes are a preparation game. When the wind is blowing 120 miles an hour and things are flying through the

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air, you're not driving to a transmitter site if you're sane. Much like the diversity we have with STLs (wired and wireless), we have diversity to help us maintain contact with our transmitter remote controls; should we need to shut one site down, transition to another site or switch to audio delivered from somewhere other than our studios, we need to maintain access to our remote control systems. Having enough different tools at enough different sites is the key to staying on the air when your sites are inaccessible.

**RW:** What should stations be sure to include on their transmitter site checklists?

**Green:** Aside from the obvious, I'd suggest:

- Redundant audio paths to each transmitter site, with a mix of wired and wireless delivery when possible.
- Silence sensors on the receive end of all backup STLs.
- Even with silence sensors, listen to the output of backup STLs during regular site visits. Some A/D converters fail in a way that they send white noise down the line, and would never trip a silence sensor.
- Test all backup facilities regularly to help insure performance when they're necessary, ideally to air, so any antenna system issues can be identified. Backup antennas take lightning hits too.

It sounds like a bad attempt at humor, but the Number 1 thing managers should know about their transmitter sites is their location and how to access them.

This is probably less critical in major markets, where the technical staff is likely to be at least a few people, but I've heard several stories over the years where incoming engineers had to locate, then break into their own sites after starting a new job, because nobody knew where they were or had spare keys.

The same goes for passwords to any mission-critical systems, like admin-level passwords to remote controls, audio processors and transmitters. I've been the replacement for terminated engineers before, and had to spend quite a bit of time resetting equipment to factory defaults during my first week on the job, just to gain access.

Ideally, every station would have at least two different transmitter sites they can broadcast from. Obviously, this isn't always possible. It typically becomes more possible as market size increases. For small markets, a lot can be done to help restore stations to air as quickly

## MOV devices lose a bit of their effectiveness with each surge they send away from the equipment to ground, so they have to be maintained like any other piece of equipment.

as possible. Every market should have a backup STL transmitter and receiver (whether RF or wired) that is capable of being used for any of their sta-

tions. Small-market FM clusters should always have at least one exciter capable of broadcasting on any of their frequencies sitting on a shelf, and the necessary

adapters and other hardware to plumb it into the transmission lines handy. Even 50 Watts into the average FM antenna system provides surprisingly good coverage of most small markets in a pinch.

Managers need to understand that their engineer will need to test any repairs to the main transmitter before placing it back on air, so every market should have at least one reject load (or dummy load) available for this type of testing. If the engineer can't test with a load, they must test with the antenna system — and you'll be off the air while they're doing it.

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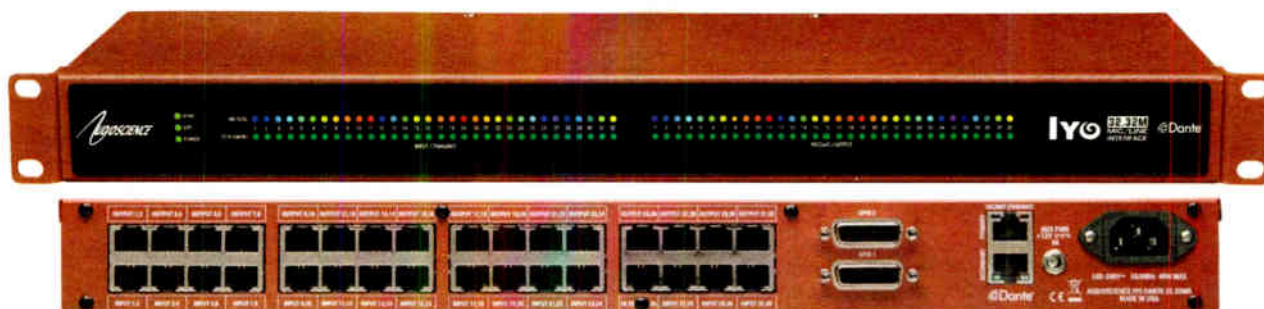
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# New WheatNet-IP Studios Handle Recent Events

Georgia Public Broadcast finds new digital network and consoles help workflow adaptation

## USERREPORT

By Tom Barclay  
Radio Operations Manager  
Georgia Public Broadcasting

**ATLANTA** — Georgia Public Broadcasting covers local politics across 18 radio stations and nine television stations in the state. Over the past several months, we've covered more local, political and live breaking news events than ever, even by election year standards.

This was on top of another major change: In early March, GPB reporters in Macon, Savannah and Atlanta

audio channels between the two easily.

The talk studio was the last one we completed in the fall of 2019, which gave me a few months to finalize settings and workflows before the pandemic hit. I had spent some time setting up salvos on the studio LX-24 consoles so that operators could interrupt the ENCO automation and mix feeds from any three of the adjoining studios in the facility. That came in handy during our many live-breaking news events; operators simply press a button on the console that fires off a salvo to interrupt the automation and go live instantly to any of the other



Tom Barclay and "Morning Edition" host Leah Fleming

Operators simply press a button on the console that fires off a salvo to interrupt the automation and go live instantly to any of the other studios.

were sent home with laptops, mics and other equipment to ride out the pandemic.

Fortunately, we had the studio infrastructure to do all the above.

In 2018, we moved our offices, rebuilt our studios and repopulated studios with new WheatNet-IP audio networking and LX-24 console surfaces. We built four edit studios and an air studio, production studio and talk studio while transitioning over from our Wheatstone Bridge TDM system to the new WheatNet-IP audio network using a Wheatstone MADi Blade, which let us move multiple

studios. I set up a similar salvo routine to stop station IDs from firing during such events, another function that has come in handy.

Finally, to repurpose broadcast television audio for radio, I set up a Wheatstone HD-SDI Blade into the WheatNet-IP network that de-embeds audio from a video stream for direct input to the console and then on-air.

I've since added Glass E remote client software for the LX-24 boards so that instead of having someone come in to turn off or on the feed and insert whatever breaks are needed, it can all be done remotely from home.

The remote client software mirrors the console so that settings can be changed remotely.

There were practical reasons for upgrading to WheatNet-IP audio networking at the time, but all those

paled in comparison to the actual events of the last few months.

For information, contact Jay Tyler at Wheatstone in North Carolina at 1-252-638-7000 or visit [www.wheatstone.com](http://www.wheatstone.com).

## ABOUT BUYER'S GUIDE

Radio World publishes User Reports on products in various equipment classes throughout the year to help potential buyers understand why colleagues chose the equipment they did. A User Report is an unpaid testimonial by a user who has already purchased the gear. A Radio World Product Evaluation, by contrast, is a freelance article by a paid reviewer who typically receives a demo loaner. Do you have a story to tell? Write to [brett.moss@futurenet.com](mailto:brett.moss@futurenet.com).

## TECHUPDATE AXIA QUASAR AOIP CONSOLE FROM TELOS ALLIANCE

The Telos Alliance says the flagship Axia Quasar sixth-generation mixing console draws upon its history as a pioneer of AoIP for broadcast, adding that it has now shipped more than 9,700 AoIP consoles worldwide.

The company says it has channeled that experience into the new Quasar, consolidating its native AoIP architecture and refining it for a high-level user experience with deep production possibilities for radio and specialized TV applications.

Quasar has an easy-to-operate touchscreen user interface (no external display required) that operators can also access remotely via any HTML5 device. Also making the operator's job easier are new source profiles (for source-associated logic automation), automatic mix-minus, and auto-mixing on all channels. Extensive metering is provided, on every channel display and next to each fader, as well as on the monitor module.

For information, contact The Telos Alliance in Ohio at 1-216-241-7225 or [www.telosalliance.com](http://www.telosalliance.com).



## TECHUPDATE

### ARRAKIS UPGRADES DARC

Arrakis Systems, working with Audinate's Dante AoIP protocol, continues to expand its AoIP console offerings.

It started with analog and digital nodes with Simple IP, then expanded to the DARC Virtual software console, followed by the DARC Surface physical interface.

Arrakis says it is now on DARC Virtual 3.0. New features include 10-point multitouch for touchscreens. Utilizing Windows multitouch capabilities, the update allows users to control multiple faders at the same time using a touchscreen monitor. DARC Virtual can now be a standalone software console, controlled via touchscreen.

Also, two phone mix-minus busses are provided to connect to two phone hybrids. Single-channel playback is provided for podcasters; this allows users to stream and record individual channels, post fader.

Other features include eEnhanced logic I/O that is customizable; advanced user presets that allow users to switch from one show layout to the next; soft keys for quickly triggering closures and user presets; customizable interface that allows users to label and color-code channels; report screen and logs; and a free upgrade for existing DARC Virtual customers.

For information, contact Arrakis Systems in Colorado at 1-970-461-0730 or visit [www.arrakis-systems.com](http://www.arrakis-systems.com).



## TECHUPDATE

### SUPERLIGHT TALLY LIGHT CONTROLLER WORKS WITH CONSOLES

Henry Engineering's SuperLight is a control interface for controlling LED and other low-voltage studio lighting. It is suitable for switching on-the-air warning lights when a studio mic is "live." SuperLight can be controlled with most broadcast consoles (or networked studios) and can directly power any 12V tally light that requires 500 mA or less. A flasher circuit is included to flash the light when it is on. Two "Form C" relay contacts are also provided for speaker muting or other utility use.



SuperLight can be controlled with a DC voltage or GPI contact closure. Control is via a plug-in Euroblock connector. Two RJ-45 connectors are provided for compatibility with network installations that use Cat-5/Cat-6 cabling. Any two wires of the RJ-45 input can be user-assigned to control SuperLight with a DC input. Cat-5/Cat-6 cabling can be "looped thru" the unit so that multiple SuperLights can be controlled with one cable. The same or different control wires can be used to control each SuperLight in the system.

SuperLight's Tally output is switched electronically to prevent arcing or switching noise. It can directly power 12V tally lights. For lights that require higher voltage and/or current, an external power source up to 30 volts DC at up to 2 amps can be used. SuperLight can be attached to any convenient surface using the unit's integral mounting flanges. It is shipped with mating Euroblock connectors and power supply.

For information, contact Henry Engineering in California at 1-562-493-3589 or visit [www.henryeng.com](http://www.henryeng.com).

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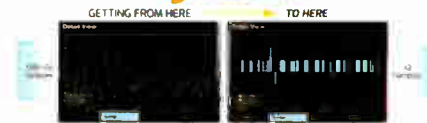
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# WXPN Upgrades With Logitek Helix

Long-time Logitek client likes touchscreen technology

## USERREPORT

**JARED STYLES**  
DIRECTOR OF ENGINEERING  
WXPN RADIO NETWORK

**PHILADELPHIA** — WXPN(FM) is a long-time user of Logitek consoles — and by “long-time” I mean decades. I arrived at the station in February, 2002. At that time we were looking at products to replace an aging Logitek Perfectionist console. We’ve used the original ROC-10, Remora, and Numix consoles at our facility since 2002. Their long life is backed up by the fact that our original Remora-4, purchased 18 years ago, is still in service!

redesigned “World Café” production studio. “World Café” is produced by WXPN and distributed by NPR to over 200 U.S. radio stations.

I’ve been working with Tag Borland and John Davis at Logitek for my entire time at WXPN. They have guided me through my initial introduction to the world of networked audio systems, two major system expansions, multiple upgrades, and thousands of questions. It’s rare to nonexistent to work with the same people at the same company for so long. Their knowledge of the product, ease of accessibility for support and pleasant and calm demeanor is unmatched in the industry.

With this installation, since we



Helix in WXPN's  
“World Café” Studio

Having the console sit on the tabletop rather than requiring a furniture cutout was an important consideration for us.

Last year, we decided it was time to replace the two remaining Numix-12 consoles that had been installed in 2004, and of course we checked out Logitek to see what was available from them. We wanted to have a similar feature set to the Numix but with a smaller footprint — however, we didn’t want to lose any physical controls such as the number of faders on the surface. Having the console sit on the tabletop rather than requiring a furniture cutout was also an important consideration for us.

Our search resulted in the purchase of two Helix-12 consoles. The Helix series is Logitek’s entry into touchscreen control of audio consoles, and it’s nice. These consoles provide really easy access to bus assignments, EQ, limiter and compressor controls. Our two new Helix units are in the backup on-air control room, which is mostly used for production, and in our newly

were dealing primarily with a console replacement in each studio, we really didn’t need assistance from the factory. My only issue was a problem with source names not displaying — but if I had read the manual, I would have saved myself and John a five-minute phone conversation.

We have a range of users at WXPN, ranging from college students who have never entered a radio station to serious radio veterans. They’ve always enjoyed our Logitek consoles, but of all the different features offered over the years, I’ve received the most positive comments on the touchscreen features on the Helix. It’s so much easier for users to access the various controls, and something as basic as panning two sources opposite to each other during a recording for easier post production is now used more often than ever. We

also rely on aux sends for a handful of important tasks, and our users have commented that the way the touchscreen displays the on/off status along with the touch controls is superior to the mechanical push button type on older consoles.

Logitek continues to be a very good value for the money, and it’s a pleasure to work with them.

For information, contact John Davis at Logitek Electronic Systems in Texas at 1-713-664-4470 or visit [www.logitekaudio.com](http://www.logitekaudio.com).

## TECHUPDATE

### GLENSOUND STYX OFFERS DANTE

The Glensound Styx is a 1RU 19-inch rackmount Dante/AES67 mixer with 24 assignable push buttons and encoders that can have mix groups or inputs/outputs assigned to them.

The basic input/output information is 32 Dante inputs; 32 Dante outputs; six rear-panel analog inputs; six rear-panel analog outputs; two rear-panel digital inputs (one AES3); two rear-panel digital outputs (one AES3); three rear-panel mic/48V inputs; and three rear-panel headphone amplifier outputs.

The Styx is controlled by a Windows 10 app called GlenController, which allows multiple mixing functions. Any number of inputs input from any source can be mixed, with variable gain and output to any local or Dante output. This gives a total of 2,208 mix points. Any input channel, output channel or mix group can be assigned to any of the front-panel buttons or encoders.

The uses of the Styx are varied. An extension

to an existing mixer that has run out of busses; an intercom mixer; an announcer/sportscaster interface as three announcers can connect and monitor directly; generate a program mix using local inputs with incoming Dante effects or atmosphere channels; as a monitor mixer with channels assigned to the front-panel buttons, etc.

The Styx has primary and redundant copper Ethernet connection via EtherCon, primary and redundant fiber connections via SFP fiber slots, can be PoE powered, has an internal mains supply, and an external DC connection.

For information, contact Glensound in England at +44-1-622-753662 or visit [www.glensound.co.uk](http://www.glensound.co.uk).





## TECHUPDATE

### SAS HAS NEW CONSOLE AND MIX ENGINE OPTIONS

The Sierra Automated Systems' Stratos updates the iSL console with new full-color OLED displays, updated DSP and availability in standard piano black or any other color and finish to match a station's look.

It features four assignable busses, durable SAS buttons and faders, a new carbon black Lexan overlay, and an affordable, easy-to-use remote console app.

The brains of the console live in Nucleus or Rio Bravo IP engines. Each engine has standard 64x64 channels of Dante and AES67 audio over IP, eliminating the need for expensive sound cards for PC I/O.

Users can network multiple studios and engines without the need for a central frame in smaller studio facilities. The Nucleus features eight analog and AES digital inputs, 16 analog and AES digital outputs to drive studio monitors, meters, talent headphones and more with PoE onboard.

The Rio Bravo has expanded the I/O compliment up to 48x48 in your choice of analog and AES digital along with the standard 64x64 AoIP.

SAS says that stations can match consoles to studio décor with a custom deep etch anodized color that won't chip or fade.

For information, contact Sierra Automation Systems in California 1-818-840-6749 or visit <https://sasaudio.com>.



## TECHUPDATE

### LAWO POWER CORE MIXING PLATFORM ADDS NEW I/O, LICENSE CHOICES

Lawo's Power Core, a networked audio mixing engine, has become more flexible with a new audio interface card and a cost-effective licensing package aimed at high-capacity audio gateway applications.

Lawo now offers an AES3-id interface card containing four bit-transparent AES3 inputs with SRC, plus four outputs, presented on eight HD-BNC coaxial connectors. The card's audiophile-grade sample rate converters support 24-bit, 44.1/44.1 kHz operation.

**Power Core users now have five license packages available.**

*Power Core Edge* is a new, entry-level license with support for up to 64 streams and up to 128 channels, 64 Ravenna/AES67 streams, 128 patchable meters, a 1,280 x 1,280 routing matrix, and the ability to add up to eight rear-panel I/O cards.

*Power Core SAN* (Super Audio Node), optimized for audio ingest, can also support small consoles with up to 32 fader assignable resources. This license supports up to 64 streams with up to 128 channels and 64 Ravenna streams plus rear-panel cards, and adds 16 DSP audio pro-

cessing channels while increasing the routing matrix to 1,728 x 1,728.

*Power Core L* (Large Console) adds capabilities to the SAN license with 96 fader-assignable resources, 48 channels of DSP processing, 40 mixing busses, a 38-client intercom matrix, AutoMix, and 64 utility mini-mixers.

*Power Core XL* (Extra Large Console) adds even more capabilities with support for up to 128 Ravenna streams, 254 fader-assignable resources, 96 DSP channels, 80 mixing busses, 32 channels of DSP bus processing, 256 metering elements, a 78-client intercom matrix, a 1,920<sup>2</sup> routing matrix, and support for 5.1 mixing.

*Power Core MAX* (MAXimum Access) means clients can power as many as four small consoles, sharing all the resources available in the XL license package.

The Power Core AES3-id interface card and Power Core Edge license packages will be available beginning Q4, 2020.

For information, contact Lawo in New York at 1-416-292-0078, in Germany at +49-7222-10020 or visit [www.lawo.com](http://www.lawo.com).

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# À Punt Radio Relies on AEQ

Studio refurb in Spain makes use of AEQ consoles and routers

## USERREPORT

By Julius Balean  
Support Engineer  
À Punt Radio

**VALENCIA, SPAIN** — À Punt Radio is part of the Corporació Valenciana de Mitjans de Comunicació. In the recent past we have been supplied by AEQ with an IP audio network based on Dante technology.

We have worked really hard to define and implement a solution that is flexible, reliable, easy to use and maintain, and long-lasting all at the same time.

### THE CENTRAL CONTROL ROOM

Though the system features automatic Dante redundancy, we are planning a parallel AES/EBU digital-audio network to provide for an emergency audio contingency that would allow operation and broadcasting to continue via some simple patch switching.

Routing is performed by an AEQ BC2000 digital audio matrix with TDM technology, IP connected with Dante to the studios. The destination is Forum Split digital mixers. Two of these studios, dedicated to live music and music editing, incorporate an additional Yamaha TF1 console connected through the Dante network.

In the central control room are two AEQ SysTel IP broadcast telephone systems, three audio codecs, two radio multi-receivers, two DVB-S2 (HD satellite) and DVB-C/T (cable and DVB-T, both in HD) receivers, and two TV sets, monitoring selector, two dual VU meters, two EBU monitors, two FM program and one streaming processors.

Also, there are two main monitors for central control room listening, the BC 2000D audio matrix and two Netbox 32 audio-over-IP interfaces. The audio matrix installed is a scalable AEQ BC2000D router. It mixes, distributes and processes audio using TDM technology, sized with a total of 352 inputs and 352 outputs, 256 of which are AoIP Dante, 64 are AES/EBU digital and 32



## The console communicates with the central control room using Dante.

are analog.

Eight patch panels are the matrix and AoIP interface inputs and outputs from and to analog and AES/EBU digital equipment connected to the matrix and AoIP. Also, an AES/EBU input and output from each studio is connected, providing an emergency wiring path.

There are four deployed IP networks: main Dante audio-over-IP network; a secondary Dante network; voice/telephony IP network connected to the WAN provided by the telco; and the control network for all the devices.

The CPUs for all computers can be seen in the central control room: the ones providing service in the central control room and the ones serving the controls, studios and booths using KVM extenders.

Typical wiring between the central control room and each studio is composed of:

- Two video distribution cables (plus four more for the cameras in the Studios 1 and 3);
- 16 Ethernet cables for primary Dante AoIP; secondary Dante AoIP; IP telephony system's handset; studio's AES/EBU audio input/output; four KVM extensions; two cables for the device IP control network; one more for the audio matrix control panel; and five spare cables.

For journalist booths, wiring is simpler, with only eight Ethernet cables plus the two video ones.

A design criterion shared by AEQ

and À Punt Radio is not to skimp on Ethernet wiring so the networks can be physically separated, greatly simplifying configuration and maintenance, reducing failures, providing physical redundancies and leaving available infrastructure left for future implementations.

Four radio studios have been installed around a Forum IP Split broadcast digital mixer, with 16 faders, and a separate audio engine. Forum Screen software application was added to help control, as well as an R128 loudness meter. The console communicates with the central control room using Dante, Netbox interfaces and other AoIP devices. It features analog microphone, line and headphone inputs/outputs and AES/EBU I/O to connect to the rest of equipment.

Also, two studios have been equipped with a camera automation system to produce visual radio by means of data command through the mixer's Ethernet interface.

Communications management (including VoIP telephony and IP/ISDN audio codecs) is performed using their respective control software. SysTel IP management application was installed on a PC with touchscreen. Audio codecs are controlled using AEQ's Control Phoenix, a dedicated piece of software.

All the required local devices (CD and USB media players, effects modules, active monitors, etc.) have also been included.

### JOURNALIST BOOTHS

For radio journalists Capitol mixing consoles are installed.

A TV set connected to the console, allows for direct recording of radio and TV broadcasted signals. A Tascam playback/recording unit is used to insert and extract audio files. A broadcast telephone system terminal, allows interfacing calls with the automation system or sending them on air.

Besides the central control room matrix input and outputs, audio signals from any other location on the network can be requested for recording and/or editing. In the same way outgoing lines to the matrix allows the sharing of live work with any other studio or even putting it on air directly if required.

Installation of the equipment was by AEQ System Engineering Dept. under the coordination of Bernardo Saiz, supervised by Francisco Calabuig and the rest of engineers at À Punt Comunicació.

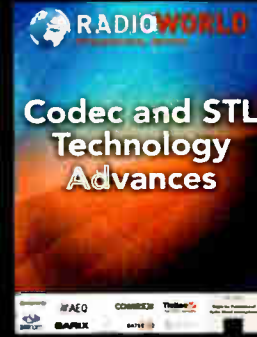
For information in the United States, contact AEQ Broadcast International in Florida at 1-800-728-0536 or visit [www.aeqbroadcast.com](http://www.aeqbroadcast.com). Elsewhere contact Gustavo Robles at AEQ in Spain at +34-91-686-1300 or visit [www.aeq.eu](http://www.aeq.eu).

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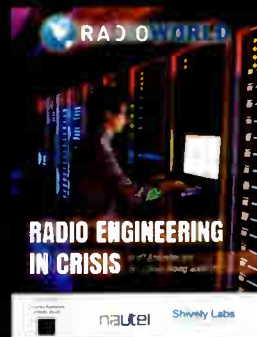
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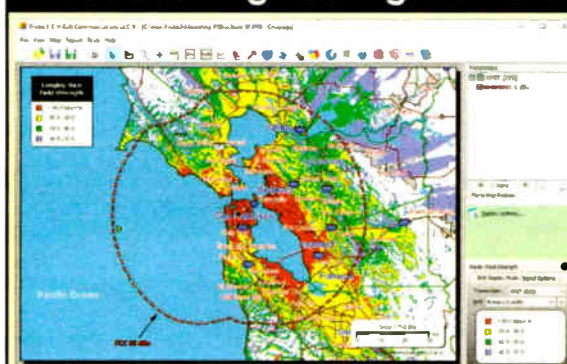
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Wanted: real plate reverb. [abgrun@gmail.com](mailto:abgrun@gmail.com).

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WYBG 1050, Messina, NY, now off the air is selling: 250' tower w/building on 4 acres; 12' satellite dish on concrete base; prices drastically slashed or make offer. 315-287-1753 or 315-528-6040

**WANT TO BUY**  
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Equipment Wanted: obsolete, or out of service broadcast and recording gear, amplifiers, processing, radio or mixing consoles, microphones, etc. Large lots preferred. Pickup or shipping can be discussed. 443-854-0725 or [ajkivi@gmail.com](mailto:ajkivi@gmail.com).

I'm looking for KTIM, AM,FM radio shows from 1971-1988. The stations were located in San Rafael, Ca. Ron, 925-284-5428.

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I'm looking for KFRC radio special of Elvis Presley which aired on January 8, 1978. I'd be willing to pay for a digital copy. Ron, 925-284-5428.

I'm looking for San Francisco radio recordings from the 1920's through the 1980's. For example newscast, talk shows, music shows, live band remotes, etc. Stations like KGO, KFRC, KSFO, KTAB, KDIA, KWBR, KSFX, KOBY, KCBS, KQW, KRE, KTIM, KYA, etc, I will pay for copies... Feel free to call me at 925-284-5428 or you can email me at [ronwtamm@yahoo.com](mailto:ronwtamm@yahoo.com).

Looking for a broadcast excerpt of a San Francisco Giant's taped off of KSFO radio from 1959, interviews with Willie Mays, Dusty Rhodes & some play by play excerpts, also features a homerun by Willie Mays and Felipe Alou stealing second base, running time is 18:02, also looking for SF Giants games and/or highlights from 1958-1978 also taped off KSFO Radio. Ron, 925-284-5428 or [ronwtamm@yahoo.com](mailto:ronwtamm@yahoo.com).

Looking for KFRC signoff radio broadcast from 1930 Andy Potter, running time is 0:22 & also the KLX kitchen the program guest is Susanne Caygill, a discussion of women's affairs with a long promotion for Caygill's appearance at a local store. Anne Truax, Susanne Caygill, running time is 13:44. Ron, 925-284-5428 or email [ronwtamm@yahoo.com](mailto:ronwtamm@yahoo.com).

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(2) LPFM radio stations for sale, located in the NW part of central Florida on the gulf coast, covers the county, get out of the cold weather, come to Florida, call or write for particulars, 352-613-2289 or email [boceey@hotmail.com](mailto:boceey@hotmail.com) or Bob, PO Box 1121, Crystal River, FL 34423.

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# “COVID Virginia” Was a Volunteer Miracle

How we programmed a very special, short-lived radio station in southwest Virginia

## COMMENTARY

BY WILLIAM TRIFIRO

*Beginning in early April and over the next 2-1/2 months, a group of volunteers produced “COVID Virginia,” a local format devoted to the impact of COVID-19 in the communities of southwest Virginia. It aired full-time on George Flinn Jr.’s station WBZS(FM) in Shawsville, which serves the Roanoke area, and online at www.covidvirginia.com.*

*Bill Trifiro, a correspondent for NBC News Radio and the 24/7 News Network, helped lead the effort.*

I can’t wait to meet most of the volunteers who worked on COVID Virginia. I’ve spent hundreds of hours with them but can’t tell you what most of them look like.

We formed the group via emails and conference calls as Governor Ralph Northam issued his first COVID-19 executive order.

It was an ambitious endeavor. We decided to fill most day-parts with live and local hosts sharing experiences and taking calls from residents who wanted to share theirs, all from our kitchens, bedrooms and basements.

Like many markets, Roanoke has a couple of news/talk stations but only two locally produced talk shows, neither of which solicits phone calls. (It’s not an indictment; WFIR has one of the best newsrooms in the country, and to support it, syndicated programming is the only way to survive.)

Historically Roanoke has been a railroad and retirement community. We knew COVID was going to hit the elderly community hard; we wanted to give residents a place to voice concerns and feel together in isolation.

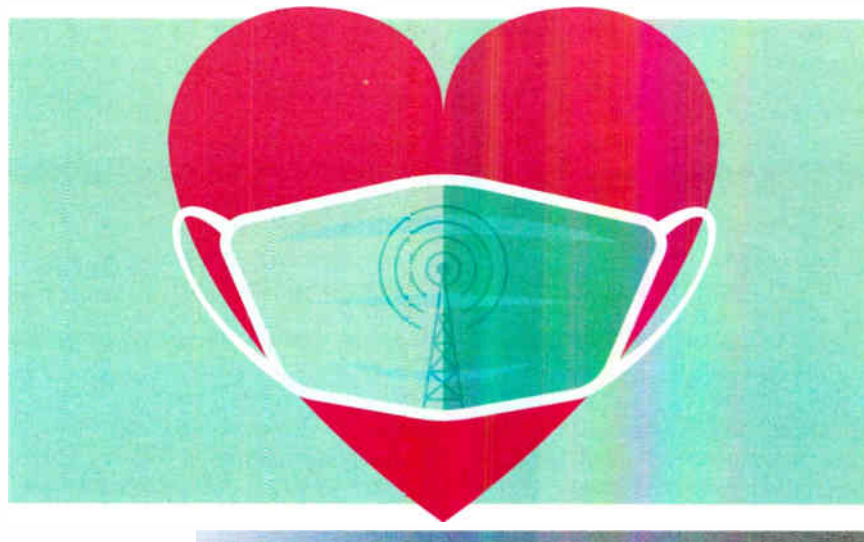
At first, we designed a decentralized model where each volunteer host would feed their show to a server that would deliver audio online and to the terrestrial tower. The flexible Backbone Radio technology we were employing would make that possible, after the company donated its platform to our effort.

The problem was time.

### COMMERCIAL-FREE

Flinn Broadcasting had offered WBZS to us and we were eager to get on the air. But it would take days to get hosts the equipment and train them on the software.

To shorten the timeline, Backbone Radio provided us a one-button, studio-



**We had no pretense that this was going to be a traditional broadcast. Dogs were going to bark, kids were going to come bursting into our makeshift studios.**

grade audio app that people could load on their phones or computers. It would connect to a board op, who would feed the server/tower; that person was me.

We had no pretense that this would be a traditional broadcast. Dogs were going to bark, kids were going to come bursting into our makeshift studios; but we wanted to provide the highest-quality information and offer all of the functionality of a talker in a top 10 market.

iHeartMedia donated NBC News Radio newscasts and its 24/7 News Network. TV stations WDBJ and WSLs donated newscasts. And since no one was getting paid we’d do it commercial-free.

After some shuffling of schedules, the volunteers got to work in two-hour shifts.

### UP WITH THE SUN

We’d get up early and run WDBJ 7’s newscast from 5 to 7 a.m. Then Ripley Johnson would host “COVID Quarantine Questions” until 9 a.m. For two-and-a-half months Ripley took a medical and inspirational approach to issues of the day, missing only one broadcast after falling down the stairs to her basement. She was back on the next day.

Our 9 to 11 a.m. slot at first was unclaimed so I dubbed it “potpourri.” When Karl Roeper took Tuesdays and Thursdays he dubbed it “Karl’s Roeperi.” From 11 to noon we aired a press conference or media briefing from the governor.

Our noon slot took a look at how COVID-19 was affecting area businesses, and provided resources to listeners. While most volunteers had some radio experience, “Business at Lunch” was manned by business veterans John Philips and Mary Miller.

Mary liked to say that she wasn’t really a rookie because she had read announcements in school. John had a passion for talk radio that I had thought didn’t exist anymore. He booked multiple guests per show, and his planning surpassed that of most of the best producers I’ve met.

### HARD-WON EXPERIENCE

The 1 p.m. slot was held by Dale Bayless, one of the best voices in radio, who had left the business to teach. Now he broadcast from his kitchen. His gift was the ability to put listeners in the shoes of students and young people trying to navigate the new normal. One caller told me Dale could read the phonebook and she’d be glued to the radio.

The afternoon show ran 3 to 5 p.m. Host Rob Ruthenberg, a broadcast veteran, was the first person I’d called when concocting this crazy idea; before I knew it he had picked up the phone and filled every timeslot.

Like many in the entertainment world, Rob had had three jobs but lost them all on the same day. Rob took the experi-

**COVID VIRGINIA**  
Together in Isolation

ence and walked listeners through ins and outs of unemployment, the paycheck protection program and stories about the fears and anxieties of those who’d lost their jobs or were working on the front lines.

We ran WSLs television news in the evening from 5 to 7 p.m. most nights. After 7 we’d air press conferences from around the New River Valley. Amy Westheimer would host “Happy Hour With Amy.” Geoff White hosted “Music Junction Friday nights.” Tyrique Nolen, a front-line worker, participated in a variety of shows. Chad Snyder helped co-host the morning show and booked guests. I’m failing to name many others who helped along the way.

When I envisioned my role I thought I’d host a long-form news program, but as we were blessed with a large number of volunteers I settled into news duty, board-op’ing and filling in for volunteers who had job interviews. It was an honor.

### JUNE CLOSING

In the days leading up to June 10, when the governor’s executive order was set to expire, we struggled with the idea of ceasing operation. Flinn Broadcasting offered to let us continue past June 10. The shows had become habit for many of us and gave many something to look forward to.

However, COVID fatigue had set in. We’d had two emergency declarations inside of the first. Also it became harder to discuss social distancing and masks when floods were affecting our region and when racial inequity and protests dominated the headlines and streets.

Statewide, COVID-19 cases were on the decline, we had reached Phase 2 of our reopening plan and dates to reopen schools had been established. Feedback from volunteers was in favor of keeping to our charter, so at 11:59 p.m. Wednesday, June 10, WBZS turned back to a music format.

I’m not sure what our impact on our community was. What I am sure of is that with a limited skill set, I did the best I could to help during the pandemic. I met some incredible people, albeit virtually. I am honored to call them friends; and I am proud of the work they did.

## OPINION

# Digital Radio Has Expanded Community Messaging

## COMMENTARY

BY JOSEPH D'ANGELO AND ASHRUF EL-DINARI

*The authors are SVP, Broadcast Radio, and SVP, Engineering-Digital Platforms of Xperi, respectively.*

When the COVID-19 pandemic was at its most critical, consumers went to radio for local and accurate information.

During the recent protests? Radio was the choice for listeners in search of consistently useful updates.

After all, the internet and social media aren't as effective at cutting through the noise and sharing relevant information; television is too broad, slow and methodical in its programming.

Though formats may have changed over time, the unique way radio delivers content makes radio a trusted friend in times of need. According to Nielsen, eight out of 10 radio listeners were either listening to radio more or the same amount during the COVID-19 crisis — with 28% saying they were listening to radio more than usual and 60% of listeners reporting that they greatly respect and trust their local radio stations to provide late-breaking updates for their community. And, some local radio stations have had huge upticks: KFI and KNX in Los Angeles were significantly up from earlier in the year, according to the Los Angeles Daily News in late May.

Radio has also proven adept at getting and keeping the attention of consumers. And, while radio is primarily an audio media, thanks to advances in digital broadcasting, broadcasters are now able to enhance their audio messages with text and visual information to create a complete information experience that reinforces each message for even greater engagement, with important ramifications for PSAs.

This convergence of digital technology with the audio format of radio has increased brand recall by up to 1500% when compared to audio-only messaging, and, according to Xperi research, improves message recall. In one study, there's a 12% lift among millennials.

All of which means greater opportunities to get public service messages out during the pandemic — and making them stick.

### HD RADIO PSAS

At Xperi, we have a unique perspective on how radio is used during this crisis, and how HD Radio has been a game-changer. Broadcasters are frequently updating their listeners — from school and business closings to hot-spot surges and reminders on how to be safe and protect the most vulnerable.

With HD Radio, which is in over 65 million vehicles on the road in the United States, broadcasters are serving their communities by enhancing audio PSA messages about the virus with text and visuals to more easily get their attention and hold it, such as illustrations of the six-foot social distancing rule.

To understand the degree to which broadcasters used HD Radio metadata to convey information related to the virus — from hand-washing to social distancing — we conducted a snapshot analysis of Xperi data across 39 markets and 76 stations in Canada, the U.S. and Mexico between Feb. 15 and May 12, the height of the pandemic information rush. When segmented across categories, this information appeared 1,810 times in news programs, 226 in news headlines, 445 in info URLs and 676 times in PSAs.

Among the reasons for this increase in use? Speed and ease of integration.

For example, Beasley Media Group quickly integrated messaging into an existing community program, and ran it across all 60 of their stations in very

high rotation.

In Mexico, Grupo Formula created their own designs, including visuals for mask-wearing, stay-at-home, hand-washing and social distancing, for all their FM HD stations in major cities, including Mexico City, Guadalajara and Monterrey.

Other Mexico groups implementing PSA campaigns through HD Radio are Televisa Radio, Multimédios, Pergom and Grupo Oro. And Rogers Media in Canada is effectively using digital data fields in their HD Radio transmissions to convey news headlines and local community information.

Beasley utilized enhanced PSA messaging on their Quu RDS systems, including a statement they shared on social media channels about their commitment to listeners and their families to promote positive change in the communities they serve and across our nation.

### ALERT ECOSYSTEM

HD Radio Emergency Alerts are also invaluable community tools for broadcasters for emergency notifications.

The pandemic, and recent events around the protests, have reinforced the urgency of leveraging digital radio as an upgrade of the public alerting ecosystem — and our PSA data indicates that broadcasters are ready to implement it to better serve their communities.

A December 2018 report by the FCC's Communications Security, Reliability and Interoperability Council (CSRIC) recommended upgrading several aspects, including, geographic targeting, multimedia, resiliency and redundancy, accessibility of alert information and integration of alerts across devices.

Digital radio technology — through



Broadcasters are frequently updating their listeners — from school and business closings to hot-spot surges and reminders on how to be safe and protect the most vulnerable.

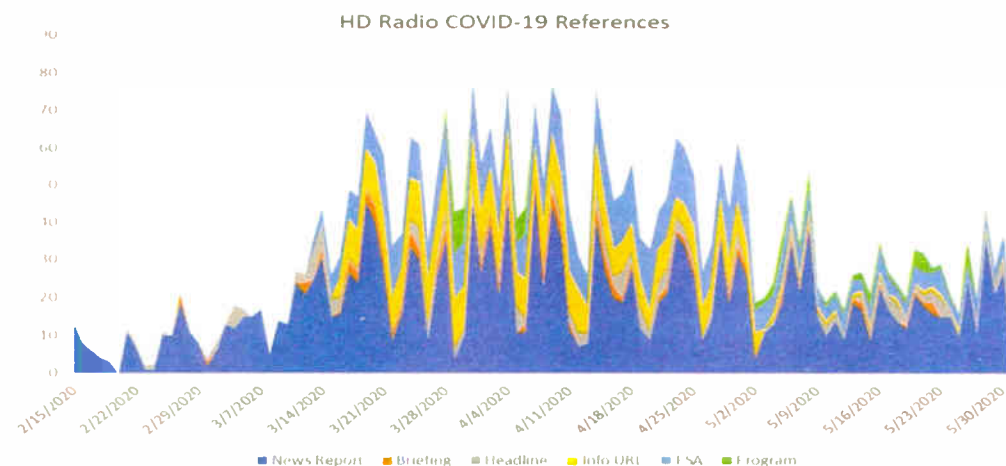
HD Radio — can enable these improvements now. At Xperi, we believe it should be utilized as an integral part of the collaborative effort to upgrade the nation's public alerting capabilities.

### PROVEN VALUE OVER 100 YEARS

Radio is simply the most efficient and flexible way to provide news and entertainment across geographic and topical segments, a claim the numbers support and remains the most consumed media channel, according to Nielsen Audio Today 2019 (total persons 12+).

So, it's no surprise that it's thrived for 100 years (and why at Xperi, we are devoting a year-long campaign to celebrate the milestone; see <https://hdradio.com/100-years-of-radio/>).

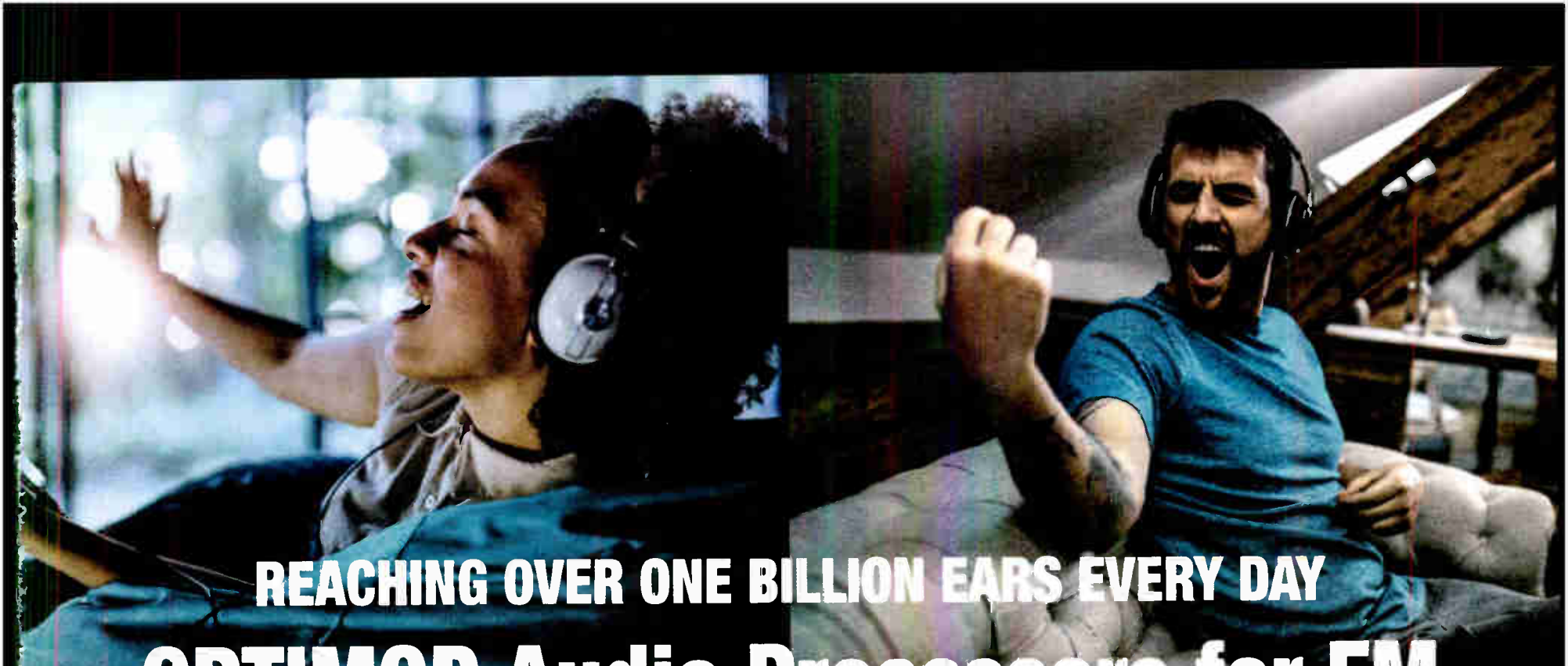
During our recent unprecedented crises, it's been radio — and digital radio — that has helped to deliver the information listeners have needed in the most comprehensive and convenient way. And when life returns to normal and priorities shift from social distancing to socializing, digital radio, and specifically, HD Radio, will help lead the way, providing a complete experience around the news and entertainment consumers want — when they want it — in a way that fits their lifestyle. It doesn't take a crisis to see the value of that.



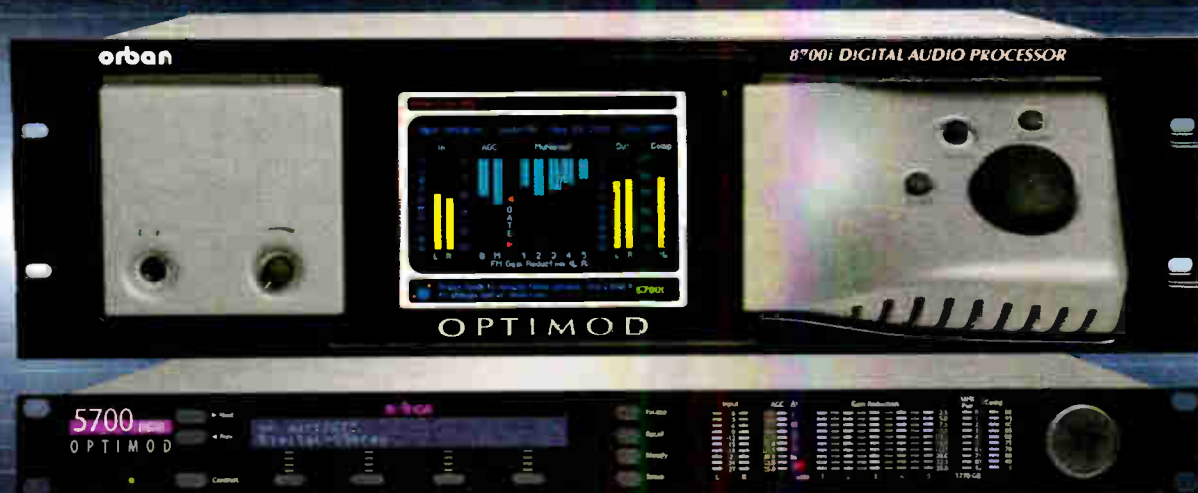
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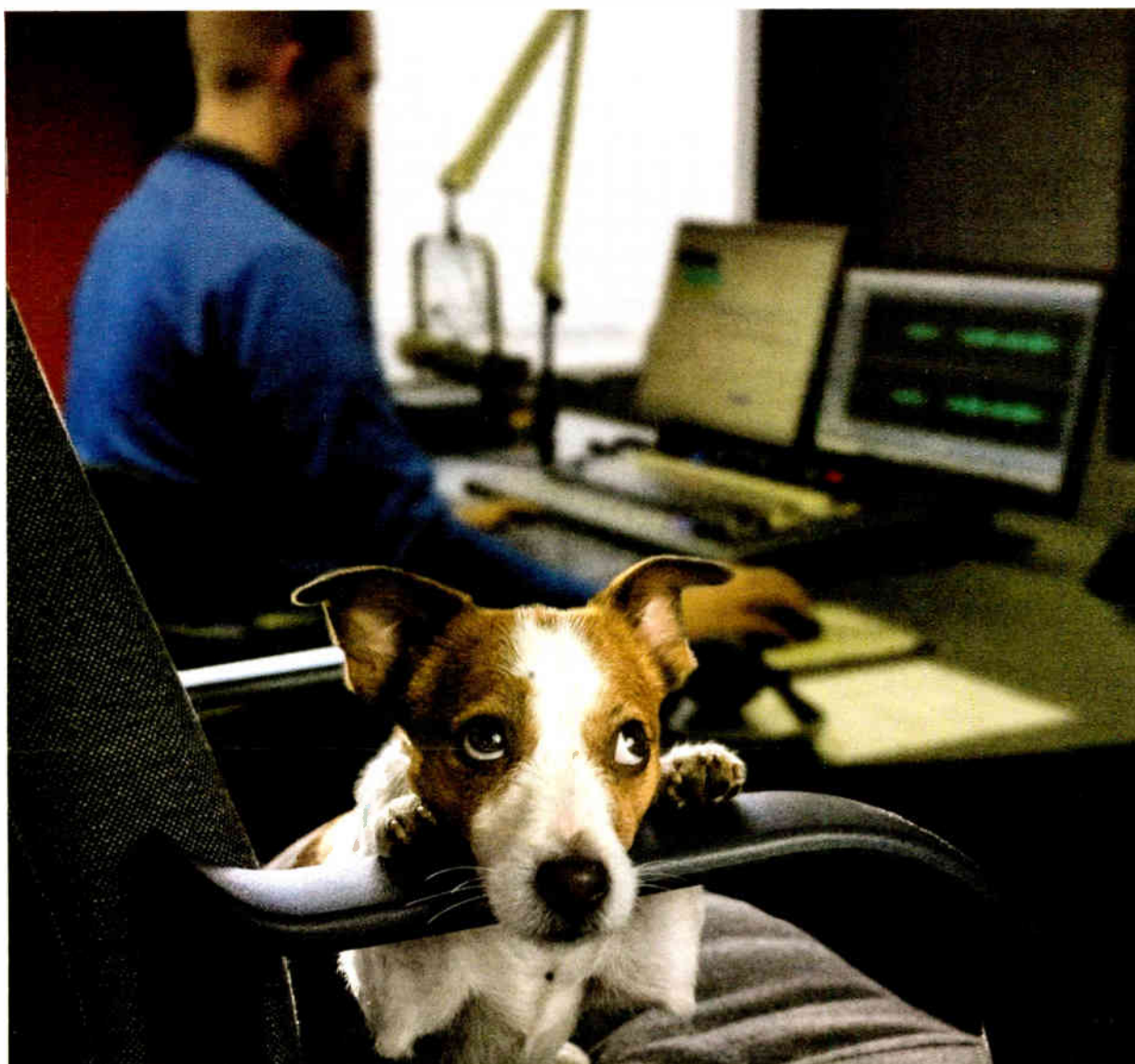
Grupo Formula created their own designs, including visuals for mask-wearing, stay-at-home, hand-washing and social distancing, for their FM HD stations in major cities. The "stay at home" image is visible at right.



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